An Analysis of Total Force Integration in RED HORSE Organizations

THESIS

Grant R. Bloom, Capt, USAF

AFIT-ENV-14-M-11

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY

AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

DISTRIBUTION STATEMENT A
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

The views expressed in this thesis are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the United States Government.

AFIT-ENV-14-M-11

AN ANALYSIS OF TOTAL FORCE INTEGRATION IN RED HORSE ORGANIZATIONS

THESIS

Presented to the Faculty

Department of Systems Engineering and Management

Graduate School of Engineering and Management

Air Force Institute of Technology

Air University

Air Education and Training Command

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Engineering Management

Grant R. Bloom, B.S.

Captain, USAF

March 2014

DISTRIBUTION STATEMENT A.
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

AFIT-ENV-14-M-11

AN ANALYSIS OF TOTAL FORCE INTEGRATION IN RED HORSE ORGANIZATIONS

Grant R. Bloom, B.S.
Captain, USAF

Approved:

//Signed//	14 Mar 14
Tay W. Johannes, Lt Col, USAF (Chairman)	Date
//Signed//	10 Mar 14
Peter P. Feng, Lt Col, USAF (Member)	Date
//Signed//	17 Mar 14
John J. Elshaw, Ph.D., USAF (Member)	Date
//Signed//	10 Mar 14
Ross E. Dotzlaf, Capt, USAF (Member)	Date

Abstract

Total force integration (TFI)—the operational linking of geographically proximate active duty (AD) and air reserve component (ARC) units with similar missions—has become a prevalent method for greater utilization of ARC forces to reduce operating costs. This research examines TFI implementation in Rapid Engineer Deployable Heavy Operational Repair Squadron, Engineers (RED HORSE), a subset of Air Force civil engineering, in terms of the outcomes units receive from being in a TFI initiative, what factors contribute to causing those outcomes, and how those outcomes may be improved by manipulating the contributing factors. Four cases of RED HORSE TFI were studied using case study research methods and focusing on textual analysis of structured interviews with twenty senior RED HORSE members. The research identified prevailing outcomes, as well as whether the AD unit, ARC unit, or RED HORSE enterprise received each outcome, prominent factors, as well as the type of outcomes associated with those factors. Manipulating internal factors such as attitudes and enterprise-level management engagement may result in increased benefits and reduced disbenefits from RED HORSE TFI initiatives and may be applicable to other areas of the previously unstudied field of TFI in combat support organizations.

Soli Deo gloria

Acknowledgments

I would like to extend my hearty appreciation to a number of individuals who supported and enabled this work and my graduation from AFIT.

First, I must thank my thesis advisor, Lt Col Tay Johannes, for his guidance during this research as well as instruction in numerous classes. He, more than any other, helped me to conceptually and practically understanding graduate thesis research. Next, thank you Dr. John Elshaw for leading me to my methodological approach and helping me understand how to actually do it. Also, thank you Lt Col Pete Feng for lending your blend of academic and practical experience, even though I underutilized it. To the final member of my committee, Capt Ross Dotzlaf, thank you for suggesting this topic, providing input and advice, being patient with the pace of my progress, and affording me the opportunity to share my research with the RED HORSE community.

Thank you to the ENV department leadership for providing me with the resources to successfully undertake this research endeavor

And most of all, to my amazing wife and daughter, I cannot possibly express how deeply I appreciate your love and support, especially during our time here. You bring joy and fullness to my life, and you give meaning to all my efforts. Thank you!

Grant R. Bloom

Table of Contents

Page

List of Figures

List of Tables

List of Equations

List of Acronyms

AC – Active Component

ACC – Air Combat Command

AD – Active Duty

ADVON – Advanced Echelon

AEF – Aerospace Expeditionary Force

AF – Air Force

AFCE – Air Force Civil Engineering

AFGSC – Air Force Global Strike Command

AFI – Air Force Instruction

AFPD – Air Force Policy Document

AFR – Air Force Reserves

AFS – Air Force Specialty

AFSOC – Air Force Special Operations Command

ANG – Air National Guard

AOR – Area Of Responsibility

ARC – Air Reserve Component

ART – AEF Reporting Tool

CE – Civil Engineering

CEG – Civil Engineer Group

CONOPS – Concept of Operations

CRG – Contingency Response Group

EOD – Explosive Ordnance Disposal

GSORTS – Global Status Of Resources and Training System

MAJCOM – Major Command

MOA – Memorandum of Agreement

MoE – Measure of Effectiveness

MOOTW – Military Operations Other Than War

MOU – Memorandum of Understanding

OPDIR – Operational Direction

PACAF – Pacific Air Forces

PRTC – Pacific Regional Training Center

Prime BEEF – Prime Base Emergency Engineer Force

RC – Reserve Component

RED HORSE – Rapid Engineer Deployable Heavy Operational Repair Squadron, Engineer

RefAF – Regular Air Force

RHS – RED HORSE Squadron

SME – Subject Matter Expert

SORTS – Status Of Resources and Training System

TFI – Total Force Integration

TTP – Troop Training Project

USC – United States Code

UTC – Unit Type Code

AN ANALYSIS OF TOTAL FORCE INTEGRATION IN RED HORSE ORGANIZATIONS

I. Introduction

Background

The Total Force concept refers to a view that Active Duty, Reserve, and National Guard forces are one team with shared objectives rather than three distinct organizations with objectives that differ more than they align. This idea originated after the Vietnam War when budget pressures to reduce military force structure compelled military leaders to think about equipping and employing the reserve component (the Reserves and National Guard) as an operational force (Correll, 2011). Again facing budget pressures throughout the last decade, military leaders have evolved the Total Force concept into Total Force Integration (TFI)—the operational linking of geographically proximate active duty (AD) and reserve component (RC) units with similar missions. Under TFI each unit maintains its own chain of command, but purposeful inter-unit coordination and alignment of equipment, facilities, and manpower ensures operational unity of effort and more efficient and effective use of resources (Department of the Air Force, 2007).

Long before TFI policy was introduced in 2006, operations integrated AD and RC forces toward a common mission as far back as 1961 during the Berlin crisis. These legacy integrations differed in structure from the current TFI construct, but they laid the groundwork for increased partnership between the components that has become increasingly attractive to mitigate decreased operational capability from decreased budgets. Although the exact magnitude of savings realized from greater employment of

the RC is routinely under debate, it is generally accepted that the RC is less costly than AD and that sharing resources can lead to more efficient use of those resources (Total Force Enterprise Management Division, 2012). This research examines the application of TFI within the context of one specific functional community, Rapid Engineer Deployable Heavy Operational Repair Squadron, Engineers (RED HORSE).

Air Force Civil Engineering (AFCE) functions as a key enabler to projecting air, space, and cyberspace power by furnishing and maintaining the platforms from which that power is projected, from fixed installations. Divided into two fundamental mission sets, Civil Engineering (CE) squadrons are designated as either Prime Base Engineer Emergency Force (Prime BEEF) or RED HORSE. Prime BEEF squadrons are tied to specific installations and provide planning, maintenance, contract construction management, environmental stewardship, and emergency services to support their base's operational mission. RED HORSE squadrons, on the other hand, operate as a theater asset and provide highly mobile heavy construction and repair capability as well as a host of specialized capabilities (Department of the Air Force, 2011).

Problem Statement

The Department of Defense is corporately committed to integrating the active and reserve components to have a more capable total force that uses resources more efficiently and effectively (Department of Defense, 2008). This commitment was manifested in the AFCE community when the Secretary of the Air Force and Chief of Staff of the Air Force directed that RED HORSE implement TFI to the greatest extent possible (Wynne and Moseley, 2007). All four active duty RED HORSE squadrons have

implemented TFI with ARC RED HORSE squadrons, and three other TFI initiatives exist between ARC RED HORSE squadrons and AD Prime BEEF squadrons. Inter-component associations through TFI were established at the CSAF's direction and will presumably endure for the foreseeable future, so it is in the best interest of TFI units and the Air Force to realize the maximum benefit those associations can offer. Therefore, this research endeavored to answer the question, "what are the beneficial and non-beneficial outcomes of TFI initiatives between RED HORSE organizations from the perspective of the units themselves and the RED HORSE enterprise, and what actions can improve these outcomes?" Examples of beneficial outcomes include reduced operating costs, increased manpower, or a more capable force. Non-beneficial outcomes are the opposite of beneficial outcomes and may include increased operating cost, decreased manpower, or a less capable force. The phrases beneficial outcome and non-beneficial outcome are considered synonymous with the terms benefit and disbenefit, respectively, and are used interchangeably throughout this document.

Research Objective

This research seeks to address the above problem by examining the outcomes of RED HORSE TFI initiatives and the factors that contribute to each outcome. Understanding the outcomes and their contributing factors will shed light on the value each TFI initiative provides to its constituent organizations and the RED HORSE enterprise, as well as the actions that may make TFI outcomes more beneficial. The following questions subdivide the research question into four investigative areas.

- How do TFI units and the RED HORSE enterprise benefit from TFI?

- What disbenefits to TFI units and the RED HORSE enterprise result from TFI?
- How do contextual factors contribute to realizing benefits and disbenefits from TFI?
- How might contextual factors be influenced to make TFI initiatives more beneficial to the constituent units, RED HORSE enterprise, and the Air Force?

These four questions are the basis for the overall analysis of TFI in RED HORSE organizations, which should provide clarification of successful aspects of the TFI initiatives as well as recommendations for further improvement. Conclusions or recommendations from this research may also have relevance for similar functional areas, such as the CE Prime BEEF mission and other Mission Support Group areas

Methodology

This research applies the case study methodology to investigate RED HORSE Total Force Integration. Case study research methods are especially suited at synthesizing various types of sources to answer "how" and "why" questions (Yin, 2009). Specific sources incorporated in this research include structured interviews conducted with senior members of RED HORSE units in TFI initiatives, as well as documents and records from those units and the staff agencies that support RED HORSE units. First, key documents outlining plans and objectives for each TFI initiative provided the framework for further data collection and data analysis. Next, the structured interviews contributed qualitative data, and textual analysis elicited meaningful information from that data to answer the investigative questions. Chapter III discusses the methodology in greater depth.

Assumptions/Limitations

In the course of a research effort it becomes necessary to make assumptions to ensure an appropriate and analyzable scope of research. The general assumptions necessary for this research include the following:

- The RED HORSE concept of operations (CONOPS), organizational structure, and doctrinal role will not significantly change.
- Policy on how TFI is implemented will not significantly change.
- Data—both quantitative and qualitative—do not contain any deliberate misrepresentations and are accurate to the best understanding of the parties providing them.

The assumption regarding organizational structure is particularly important in light of the force structure changes that were discussed while this research was being conducted. The Air Force announced that overall manning would be reduced by 25,000 members (Air Force Public Affairs Agency, 2013), which puts pressure on each functional community to determine where to make their portion of those cuts. Discussions were in progress to significantly reduce and shift manpower in RED HORSE to include possibly divesting one or more squadrons (RED HORSE program office, 2013a). This research did not try to anticipate any specific outcome and used fiscal year 2013 organizational structures and manning throughout the duration of the research.

General assumptions, as well as a researcher's choice of methodologies, impose certain limitations to how the research is evaluated and applied. Expert elicitation methods like structured interviews have inherent biases because the data are subjective. Systematic procedures in conducting and analyzing the interviews were implemented to mitigate bias from the interview respondents and the researcher. Availability bias is a

cognitive process where recent and vivid memories dominate the recollection and decisions people make (Gerras, 2008). Providing interviewees with the interview guide containing a topics list three days before the interview added a stimulus to look beyond recent and vivid examples so that interviewees might discuss the whole spectrum of RED HORSE TFI topics. Selection bias is where there are systematic differences between the portion of a population selected and the portion of the population not selected (Daniel, 2012). Purposive sampling used in this research deliberately exhibits selection bias, but using specific selection criteria ensured that expertise was the primary difference between selected and non-selected members of the population. Framing bias is where the wording of a question suggests answers of a specific nature (Gerras, 2008), which was mitigated in this research by testing, adjusting, and retesting interview questions with five pilot study interviews. Finally, data analysis could be bias by the manner in which coding interview transcripts was conducted. The coding process was systematic and carried out in a consistent environment by a single person. Validation by comparing parallel coding efforts by several people to measure the consistency of their coding would have strengthened the findings of this research.

As with any research, conclusions herein are inherent to the functional areas investigated and may not apply to other functional areas without adjustment or further analysis. For example, this research only includes the four TFI initiatives between two RED HORSE squadrons and omits the TFI initiatives between RED HORSE and Prime BEEF squadrons; therefore, conclusions about the former may not apply to the latter.

Preview

This research endeavored to analyze existing TFIs in the RED HORSE community; identifying outcomes and their related factors, discussing how those outcomes may be improved, and providing recommendations to RED HORSE stakeholders. The next chapter examines existing literature on RED HORSE, total force integration, and methodological topic areas. Chapter III describes the case study research methodology employed to scrutinize existing RED HORSE TFI initiatives. The results are then presented and discussed in Chapter IV. Finally, the last chapter provides conclusions and recommendations based on the research findings.

II. Literature Review

This research combines the two subject areas of total force integration (TFI) and RED HORSE organizations. This literature review is an exploration and examination of existing articles, documents, presentations, and reports to inform the study of RED HORSE TFI. First, examining the heritage of TFI, its purported benefits and challenges, and applicable policy illuminates the administrative context for RED HORSE TFI. Next, discussing RED HORSE doctrine, organization, and operations provides an organizational context in which to understand RED HORSE TFI. The specific circumstances of the four RED HORSE TFI initiatives in view are profiled as well. Finally, candidate methodologies are discussed and the selected methodology and its related tools and techniques are presented in detail.

Total Force Integration

In terms of policy, the Total Force concept started with a 1970 memorandum from Secretary of Defense, Melvin Laird, announcing that the military services would shift toward a greater reliance on Reserve and National Guard forces and reduce Active Duty end strength in order to reduce defense expenditures (Correll, 2011). In practice, however, the Air Force implemented the Total Force concept long before Laird's memorandum. In 1967 the Air Force created what is now known as TFI when two C-141 wings—one Active Duty and the other Air Force Reserve—at Norton AFB, CA began integrating aircraft operations and maintenance support functions (Oates, 2008). TFI is

the current paradigm for implementing the Total Force Concept and exists to synergize efforts of Active Component and Reserve Component units with similar missions to more effectively leverage scarce resources in meeting combatant commander requirements (Department of the Air Force, 2007).

It is worth spending some time clarifying Total Force terminology, especially as it pertains to the term component. There are three components in the Air Force: Active Duty (AD), Air National Guard (ANG), and Air Force Reserves (AFR). Often however, the ANG and AFR are referred to collectively as the Air Reserve Component (ARC). Alternatively, the Reserve Component (RC) refers to National Guard and Reserve forces collectively from any one service branch. For this reason the terms ARC and RC are often used interchangeably. Further, several terms can be used interchangeably to refer to Active Duty forces, such as Regular Air Force (RegAF) and Active Component (AC). This research will primarily use the terms AD and ARC, but understanding the other terms prevents confusion when comparing this research with other Total Force literature.

Potential Benefits

In addition to potentially reducing defense expenditures by realizing greater efficiency of resource utilization, TFI may provide additional benefits to the Air Force and other service branches. One such benefit may be an improved public image. The ARC has a stronger connection to the American public than the AD by virtue of working full-time in their local communities, being more involved in local organizations, and remaining at the same duty station for substantially longer periods. Further, the shift from using the ARC as a strategic reserve during the Cold War to an operational force

beginning in Operation Desert Storm increased the awareness Americans have of the service of their friends and neighbors in the ARC (Department of Defense, 2008).

Another possible benefit from TFI is improved retention and recruiting. Integrating the AD and ARC increases AD awareness of options for continued service offered by the ARC and thereby increases recruiting of AD members. Recruiting AD members bolsters the operational capabilities and strategic depth of the ARC by capitalizing on existing service experience and saving resources that would otherwise be used to train new recruits who have no military experience (Johnson, Kniep, and Conroy, 2013). The Air Force realizes a significant cost savings over new accessions by transitioning AD members to the ARC, so recruiting AD members is a top priority for the ARC (Air Force Reserve Command, 2013). Further, the ARC may enjoy higher retention of its own members by leveraging opportunities afforded by collaboration with AD units. The AD also may realize improved recruiting and retention because its members receive unique mentoring and development opportunities from working with the generally older and more experienced ARC members (Johnson, Kniep, and Conroy, 2013).

Potential Challenges

While the potential benefits of TFI are substantial, there are challenges associated with integration across the different components. The first challenge is managing the different perspectives and perceptions of three fundamentally different organizational cultures to achieve synergy rather than dissonance. The differences between the ANG and AFR are subtle, but the differences between the ARC and the AD are significant, and stereotyping is common (Sotallaro, 2007). Organizational behavior literature (Colquitt, Lepine, and Wesson, 2012; Riche et. al, 2007) maintains that common experiences

typically supplant stereotypes and create mutual understanding, but misconceptions and animosity are significant short term challenges to bringing diverse populations together. Focus group members participating in research by Riche et. al (2007) relayed that at the extremes, the AD views the ARC as "weekend warriors" that are not competent at their job and have little respect for military customs, while the ARC views the AD as short-sighted, inexperienced, and constantly rotating in and out (Riche et. al, 2007). Years of AD and ARC Airmen working side-by-side during deployments supporting the Global War on Terror have generally helped to lessen the magnitude of misconception and misunderstanding between the AD and ARC, but each TFI initiative continually has to overcome initial misconception and stereotyping to succeed (Sotallaro, 2007).

Another challenge associated with effectively employing TFI is navigating statutory constraints, particularly involving the ANG. Unless operating in federal mobilization status, ANG members operate under Title 32 of the United States Code (USC), and their chain of command is associated with the state adjutant general and state governor. Conversely, AD and AFR members operate under USC Title 10, as do ANG members when federally mobilized, and their chain of command is associated with the Secretary of Defense and the President. Consequently, AD and AFR members may not exercise command over ANG members while they are serving under Title 32 status and vice versa. This separation of command authority necessitates that TFI units maintain separate chains of command, particularly for administrative matters, which can undermine good order and discipline if members of one component are treated differently than members of the other component (Oates, 2008). Furthermore, the requirements for

mobilizing ARC units are substantially more complex than mobilizing AD units and allow less flexibility in employing ARC units.

Yet another challenge to TFI implementation is maintaining a sustainable operations tempo, which is relevant in the contexts of ARC volunteerism and AD tasking requirements. Volunteerism is the concept within the ARC where individual members voluntarily take deployment taskings not associated with a unit mobilization (Department of Defense, 2008). For example, an ARC member in a classic associate model TFI who fills a deployment requirement for the host unit exhibits volunteerism. Moore (2009) contends that this concept is integral to successful TFI implementation because oftentimes TFI units have fewer manning authorizations than non-TFI units because of the purported efficiencies provided by the TFI. Relying on volunteerism too heavily can have two negative repercussions. First, ARC members may be dissatisfied with a unit climate that heavily promotes—or even expects—volunteerism, because the unit's expectations may exceed the member's willingness to deploy. This expectation imbalance results in poor retention and esprit de corps. The second negative consequence of relying on volunteerism is that the AD unit may not be able to meet its designed operational capability without ARC volunteers. If the AD unit received insufficient ARC volunteers to fill a tasking then the AD unit would be forced to draw on other AD units for assistance, which could have cascading consequences (Moore, 2009).

TFI Framework and Policy

Total Force Integration translates from concept into reality under what is known as the associate program. One of three associate relationships may exist between units involved in a TFI: classic associate (also known as reserve associate), active associate,

and ARC associate. The name denotes which component serves as the associate in the TFI relationship, while the other component serves as the host. The host component is not necessarily in control of the installation, but instead is in control of—or *owns*—the weapon system shared in the TFI (Department of the Air Force, 2007). This research deals exclusively with the classic associate model where the AD unit is the host and the ARC unit is the associate.

Under TFI each unit maintains its own chain of command, but purposeful inter-unit coordination and alignment of equipment, facilities, and manpower ensures operational unity of effort and more efficient and effective use of resources. Implementing an approved TFI initiative begins with an integration plan (I-plan) which "sets the strategic direction for the integration initiative, serves as the basis for the development of the supporting implementing documents, and helps frame and define the measures for success" (Department of the Air Force, 2007). Next, a Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA) is created between the associated units to delineate specific integration parameters, the most important of which is operational direction (OPDIR). OPDIR is the means by which a member of one component directs the efforts of a subordinate from another component to reach mutual operational objectives. The MOU/MOA includes a standing order from each commander that his or her subordinates will follow the OPDIR of the other unit's personnel. For example, an AFR Airman is ordered to follow the OPDIR of an AD shop chief. The MOU/MOA also outlines the degree to which units will functionally integrate, which ideally includes being trained, tasked, inspected, and employed as one unified team (Department of the Air Force, 2007).

The Air Force's primary policy document on TFI is Air Force Policy Directive (AFPD) 90-10, *Total Force Integration Policy*, while Air Force Instruction (AFI) 90-1001, *Responsibilities for Total Force Integration*, provides the guidance for policy implementation. Additionally, the Total Force Enterprise Division within Headquarters Air Force (AF/A8XF) serves as the focal point for TFI support and implementation. Each Major Command (MAJCOM) has a staff office to provide closer management and support of TFI initiatives within the command. Air Combat Command (ACC) serves as the lead command for RED HORSE and has direct oversight of three of the four TFI initiatives included in this research, while Pacific Air Forces (PACAF) is responsible for the remaining initiative.

RED HORSE

While Air Force Civil Engineering (AFCE) traces its lineage to the Army Signal Corps during World War I, the RED HORSE mission set—a subset of AFCE—was born during the Vietnam War when contingency construction requirements, especially airfield construction, exceeded theater construction capabilities. At that time the Air Force outsourced all of its new construction requirements to the Army Corps of Engineers and Navy SEABEEs, while Air Force Prime BEEF units provided maintenance and minor repair capabilities. A severe backlog in Air Force construction requirements resulting from this arrangement, as well as the results of a study on AFCE capabilities, prompted Secretary of the Air Force, Harold Brown, to advocate for a highly mobile organic heavy construction and repair force to meet Air Force construction and repair requirements in the Vietnam Theater. As a result, the first two RED HORSE squadrons were activated,

trained, and deployed in 1965, with four more operational squadrons and a training squadron standing up before the end of the Vietnam War (Wheeler, 1987).

In the years following the Vietnam War AFCE codified the organization, training, equipping, and employment of RED HORSE units in Air Force Regulation 85-25, which was replaced by AF Regulation 93-9, which was in turn replaced by Air Force Instruction (AFI) 10-209. The progression from AF Regulation 85-25 to AFI 10-209 was evolutionary in nature and surprisingly little has changed in the way RED HORSE operates since its inception, which is not to say that RED HORSE has not changed at all, because lessons learned from previous operations are exactly what provided the impetus for AF Regulation or AFI revisions (Wendling, 2006). Despite this stability, a perception exists that RED HORSE may need to make a revolutionary organizational change to better align with the requirements of the post-9/11/01 security environment (Kerr, 2012). Nevertheless, RED HORSE units continued to develop their reputation as a premiere construction force through involvement in every major conflict since Vietnam and numerous military operations other than war (MOOTW).

The RED HORSE operational construct is centered on the hub-and-spoke concept using up to two hubs, each supporting several spokes. Each hub consists of command, administrative, services, supply, maintenance, and medical elements which make a RED HORSE squadron self-sustaining if resupplied with consumable items. The spokes are comprised of one or more construction teams specializing in either horizontal or vertical construction. Vertical construction includes new facilities and utilities while horizontal construction includes site preparation, roadways, and airfield pavements (Department of the Air Force, 1999).

One unique characteristic of RED HORSE squadrons is their special capabilities beyond standard construction. These unique capabilities include asphalt and concrete batch plant and paving operations, directional drilling, minor explosive demolition, well drilling, quarry operations, materials testing, contingency airfield evaluation, pavement milling, crane operations, and Automatic Building Machine/Ultimate Building Machine (commonly known as K Span) operations. Additionally, RED HORSE boasts a small contingent of engineers specializing in extremely rapid deployment via air insertion to perform site assessments (Department of the Air Force, 2010). These special capabilities allow RED HORSE to undertake a wide variety of construction requirements with great flexibility and rapidity.

RED HORSE squadrons are intended to deploy as an entire unit, which opposes the prevailing paradigm used by other expeditionary CE units that assemble ad hoc organizations with personnel from many locations. Maintaining unit integrity develops the cohesiveness and readiness necessary to deliver a rapidly deployable force; one of the core competencies of RED HORSE (Department of the Air Force, 1999). An Active Duty advanced echelon (ADVON) team must be able to respond to a contingency within 12 hours, with the rest of the squadron responding within 72 hours (for both personnel and equipment). Response times for ARC squadrons are 48 hours greater than the AD response times. A response time is the elapsed time from when a unit receives a mission to when forces deploy to support that mission (Department of the Air Force, 2012).

Since their inception, RED HORSE squadrons have been composed of roughly 400 personnel of various Air Force Specialties (AFSs). The current construct organizes the sixteen RED HORSE squadrons in the total force into ten 404-person squadron

equivalents. Notionally, four squadron equivalents reside in the Regular Air Force, four squadron equivalents are in the Air Force Reserves, and five squadron equivalents are in the Air National Guard. Each ARC squadron equivalent is divided between two squadrons that have complementary fractions of the 404 personnel so that two ARC "sister" squadrons can combine to form one squadron equivalent. There are no mixed component sister squadron arrangements (e.g. an Air Force Reserve squadron paired with an Air National Guard squadron). An effort is presently underway to redistribute manning authorizations across the RED HORSE enterprise to correct the disparity between the notional model and the real situation which was caused by numerous force structure changes in the past two decades (RED HORSE Program Office, 2013b).

The 404 personnel that comprise a squadron equivalent are postured in nine different Unit Type Codes (UTCs)—twenty total UTCs—each with a specific function in the overall RED HORSE mission. Of the 404 personnel, 311 are in Civil Engineer AFSs and are concentrated in the vertical and horizontal construction UTCs (4FPRS, 4FPRT, 4FPRU, and 4FPRV) which have only CE personnel. The remaining 93 non-engineer personnel are primarily postured in the beddown and support UTCs (4FPRX, 4FPRY, and 4FPRW) that make up the hubs in the hub-and-spoke concept (Department of the Air Force, 2012). Figure 1, below, shows how the twenty UTCs combine to form the 404 person squadron equivalent (RED HORSE Program Office, 2013b). The colors in the UTC chart are only meant to distinguish between UTCs and don't have any further meaning.

UTC	Description	Personnel/UTC	UTCs/Squadron	Total Personnel
4FPRL/K	Airborne/Air Insert	21	1	21
4FPRQ	Site Assessment	12	2	24
4FPRY	Primary Beddown	46	1	46
4FPRX	Secondary Beddown	38	1	38
4FPRW	Construction Support	26	2	52
4FPRV	Large Horizontal	23	3	69
4FPRU	Small Horizontal	8	4	32
4FPRT	Large Vertical	24	4	96
4FPRS	Small Vertical	13	2	26
			20	404

Figure 1: UTC Configuration

RED HORSE squadrons do not support a peacetime flying mission like Prime BEEF squadrons; consequently, their peacetime mission is to prepare for their wartime mission. In order to train for and practice their wartime mission of expeditionary construction and repair, RED HORSE squadrons use Troop Training Projects (TTPs) as an avenue to perform expeditionary construction in a non-expeditionary environment. These TTPs can be in support of RED HORSE or Prime BEEF related construction requirements and provide a dual benefit to both the supporting and supported units. The supporting unit, the RED HORSE squadron executing the TTP, gains valuable training experience to hone its members' construction skills. The supported unit receives a newly constructed facility that often costs considerably less than a similar contractor-built facility.

RED HORSE TFI initiatives

There are three active associate and four classic associate TFI initiatives involving RED HORSE squadrons (RHS). As previously mentioned, the three active associate

initiatives are outside the scope this research. The four classic associations are between the 819th RHS (AD) and 219th RHS (ANG) at Malmstrom AFB in Montana, the 820th RHS (AD) and 555th RHS (AFR) at Nellis AFB in Nevada, the 823rd RHS (AD) and 556th RHS (AFR) at Hurlburt Field in Florida, and the 554th RHS (AD) and 254th RHS (ANG) at Andersen AFB in Guam. The following sections will discuss the organizational and environmental contexts for the four TFI cases. Table 1, below summarizes some key statistics (RED HORSE Program Office, 2013a).

Table 1: Summary Case Information

Location	Unit	Component	Host Base MAJCOM	Authorized Manning	Commander	Reports to
Malmstrom AFB, MT	819th	AD	AFGSC	411	O-6 (s)	9th AF
	219th	ANG		197	O-5	MTANG
Nellis AFB, NV	820th	AD	ACC	548	O-6	12th AF
	555th	AFR		209	O-6	622nd CEG
Hurlburt Field, FL	823rd	AD	AFSOC	455	O-6	9th AF
	556th	AFR		209	Vacant (O-6)	622nd CEG
Andersen AFB, Guam	554th	AD	PACAF	158	O-5	36th CRG
	254th	ANG		125	O-4	254th ABG

I-plans were prepared at the outset of three of the four classic associate RED HORSE TFI initiatives. In addition to ensuring a standardized organizational framework, the I-plan sets forth objectives, desired effects, and measures of effectiveness (MoEs) used to evaluate each TFI initiative once it reaches full operationally capability. The objectives and MoEs common to the three existing I-plans are as follows (Brown and Manion, 2009).

Objective 1. Provide uninterrupted RED HORSE forces to the Combatant Commander. Desired Effect: Synergize RegAF and Reserve component strengths to mitigate OPSTEMPO/PERSTEMPO risks.

MoE 1. Regular component OPSTEMPO/PERSTEMPO is at or below AFPD 36-21 thresholds. Maintain minimum of a predictable 1:2 deploy-to-dwell ratio.

MoE 2. Reserve component OPSTEMPO/PERSTEMPO is at or below Full-Time Support and Selected Reserve thresholds. Maintain a predictable 1:5 mobilization-to-dwell ratio.

Objective 2. Support steady state training requirements.
Desired Effect: Consolidate training activities to maximize the number of personnel trained while minimizing the time required doing so.

MoE 3. RegAF and Reserve RED HORSE combat readiness will be measured separately by using the current Status of Resources and Training Systems (SORTS) system as set forth in CJCSM 3150.02, Global Status of Resources and Training System (GSORTS), and AFI 10-201, Status of Resources and Training System.

MoE 4. Report UTC combat readiness using the Aerospace Expeditionary Force (AEF) reporting tool (ART) per AFI 10-244, Reporting Status of Aerospace Expeditionary Forces. These publications are supplemented by both ACC and AFRC, and provide the instructions for reporting unit readiness at a UIC (SORTS) and UTC (ART) level.

Malmstrom AFB, Montana

The 819th RHS and 219th RHS were the first RED HORSE TFI initiative. The two units stood up in 1997 as a blended organization where the 819th RHS supplied 2/3 of the personnel and the 219th supplied the remaining 1/3 of the personnel (Hartzer, 2013). The manning paradigm shifted away from the additive model of the two squadrons combining to form one squadron equivalent to the 819th RHS becoming a full 404 person squadron in 2009. The units share a compound where most facilities are integrated and occupied by both units (RED HORSE Program Office, 2013a).

Another differentiating factor for this TFI initiative is the climate. Unlike the other TFI squadrons that are all located in warm regions, the 819th RHS and 219th RHS are situated in a much colder area and have a limited construction season. Consequently, these squadrons look to execute troop training projects at warmer locations during the winter months.

The 819th RHS reports administratively and operationally to 9th Air Force of ACC, but receives host base support from the 341st Missile Wing of Air Force Global Strike Command (AFGSC). The 219th RHS reports administratively and operationally to the Montana ANG, but receives host base support from the 120th Fighter Wing (ANG). The organizational chart for the Malmstrom TFI is shown below in Figure 2.

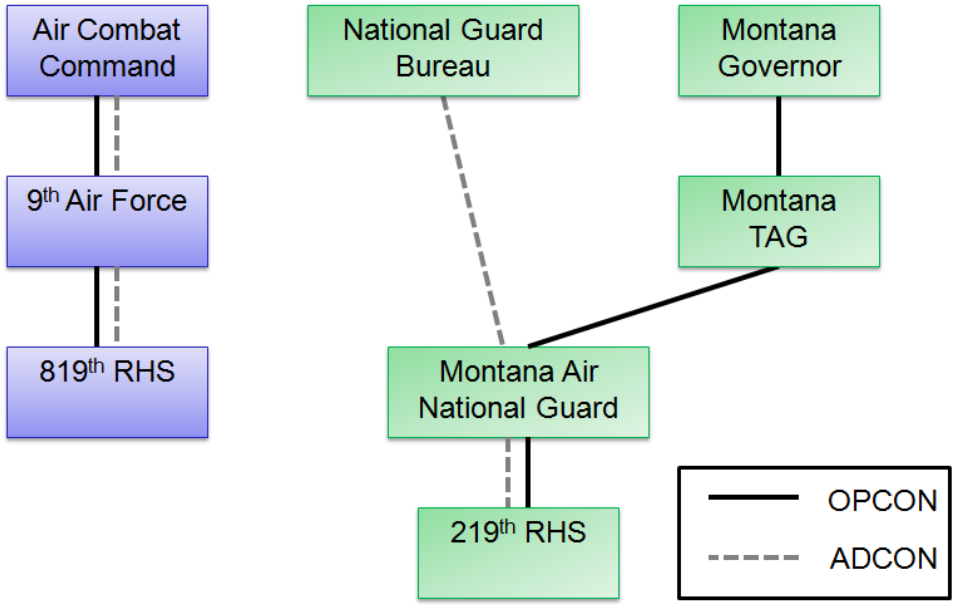

Figure 2: Malmstrom TFI Organizational Chart

As a classic association, the 819th RHS owns all the vehicles and equipment, but the 219th RHS is authorized to use the vehicles and equipment for MTANG missions through a memorandum of agreement (MOA). The final distinguishing feature of this association is that no initiation documents for the TFI exist. The two units have established informal and unwritten agreements regarding inter-unit integration and support based on lessons learned from their seventeen years working side-by-side (Total Force Enterprise Management Division, 2013).

Nellis AFB, Nevada

When the 555th RHS was reactivated in 2001 at Nellis AFB they were associated with the 554th RHS at Osan AB, Korea and 254th RED HORSE Flight at Camp Murray, WA despite being physically located adjacent the 820th RHS. The 820th RHS and 555th RHS formalized their existing resource sharing relationship as a TFI classic association after the 554th RHS and 254th RHS moved to Andersen AFB, Guam (Hartzer, 2013). As part of the TFI agreement, the 555th RHS built facilities within the 820th RHS compound and makes use of 820th RHS facilities on drill weekends. The 820th RHS reports administratively and operationally to 12th Air Force and receives host base support from the 99th Air Base Wing, both in ACC. The 555th RHS reports operationally to the 622nd Civil Engineer Group (CEG) and administratively to the 926th Group, both in AFRC but located at different bases. The organizational chart for the Nellis TFI units is shown below in Figure 3.

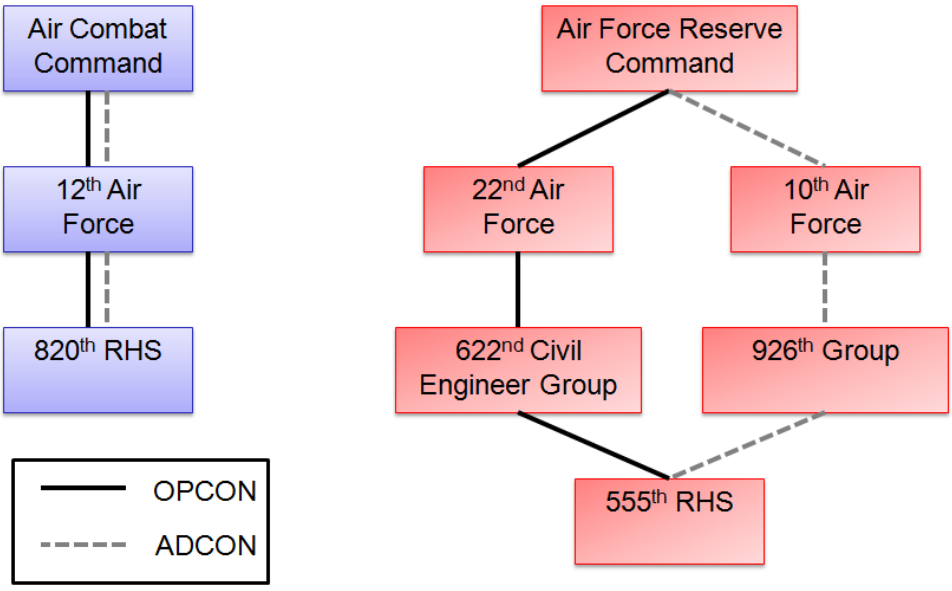

Figure 3: Nellis TFI Organizational Chart

Hurlburt Field, Florida

The TFI at Hurlburt Field began in 2008 when the 556th RHS moved from Lackland AFB into the 823rd RHS's compound at Hurlburt Field. This is the youngest RED HORSE classic associate TFI initiative and is particularly unique because the 556th RHS commander position has been vacant since October 2012. Another unique facet of this TFI is that it includes a CE contingency engineering school known as Silver Flag that is assigned as Detachment One of the 823rd RHS. The 823rd RHS reports administratively and operationally to 9th Air Force in ACC and receives host base support from the 1st Special Operations Wing in Air Force Special Operations Command (AFSOC). The 555th RHS reports operationally to the 622nd Civil Engineer Group (CEG) and administratively to the 919th Special Operations Wing, both in AFRC. The organizational chart for the Hurlburt TFI is shown below in Figure 4.

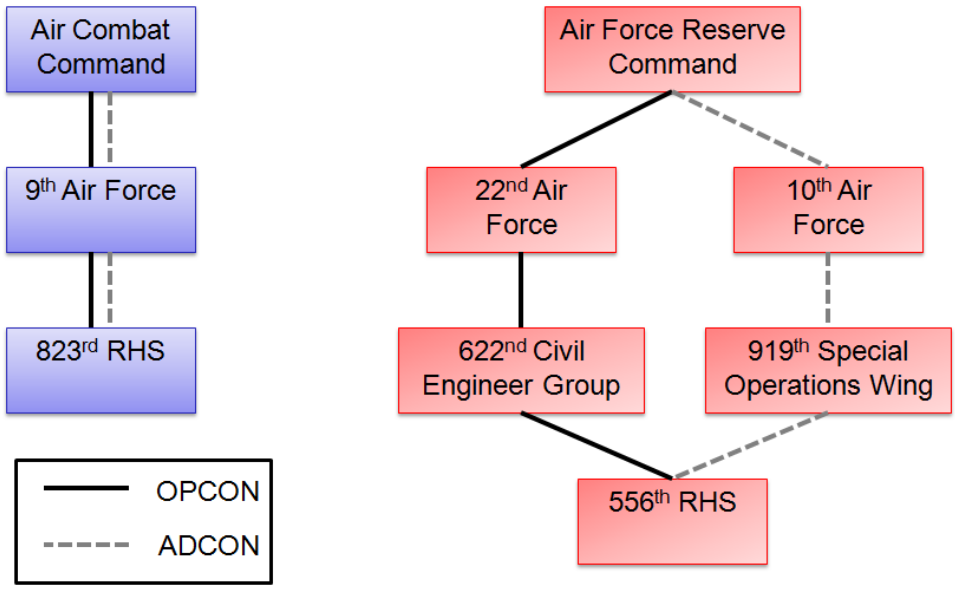

Figure 4: Hurlburt TFI Organizational Chart

Andersen AFB, Guam

The RED HORSE TFI initiative at Andersen is also relatively young, having been initiated in 2006 when the 554th RHS moved from Osan AB, Korea and the 254th Civil Engineer Squadron was redesignated as an RHS. Like the Hurlburt TFI there is a Silver Flag site assigned to the AD squadron, but the difference is that the Silver Flag site at Andersen is still under construction. The Silver Flag site is part of a massive ongoing construction endeavor known as the Pacific Regional Training Center (PRTC). The PRTC entails operations and maintenance, MILCON, and troop-labor construction in excess of $220 million to provide training venues for combat support forces in the Pacific Command area of responsibility (AOR). The PRTC also includes the 554th RHS compound, which is still under construction (Davit, Batherson, and Monkman, 2010).

The 554th RHS and 254th RHS are also part of an additive TFI where each unit constitutes approximately one third of a standard 404 person squadron configuration and the 307th RHS (AFR) from Barksdale AFB in Louisiana provides the remaining third. The 307th RHS relationship to the Andersen units is based on war plans rather than a formal TFI, so the 307th RHS was outside the scope of this research. The reduced size of the 554th RHS combined with the immense workload of the TFI resulted in a significant amount of augmentation, which has primarily been through the 254th RHS. The 254th RHS has executed in excess of 8,000 MPA days per fiscal year since construction started on the PRTC. In comparison, the other three TFIs have executed approximately 1,225 MPA days each per fiscal year in the past five years.

The final distinguishing feature of the Andersen TFI is the organizational structure of the two squadrons as depicted below in Figure 5. First, the two squadrons are

assigned to PACAF rather than ACC. Second, both squadrons are subsumed by several higher echelon organizations. The 554th RHS is the only AD squadron that does not report directly to a Numbered Air Force because they are subordinate to the 36th Contingency Response Group (CRG) under the 36th Wing. The 254th RHS is also a subordinate unit to a group, in this case the 254th Air Base Group. Both units receive host base support from the 36th Wing.

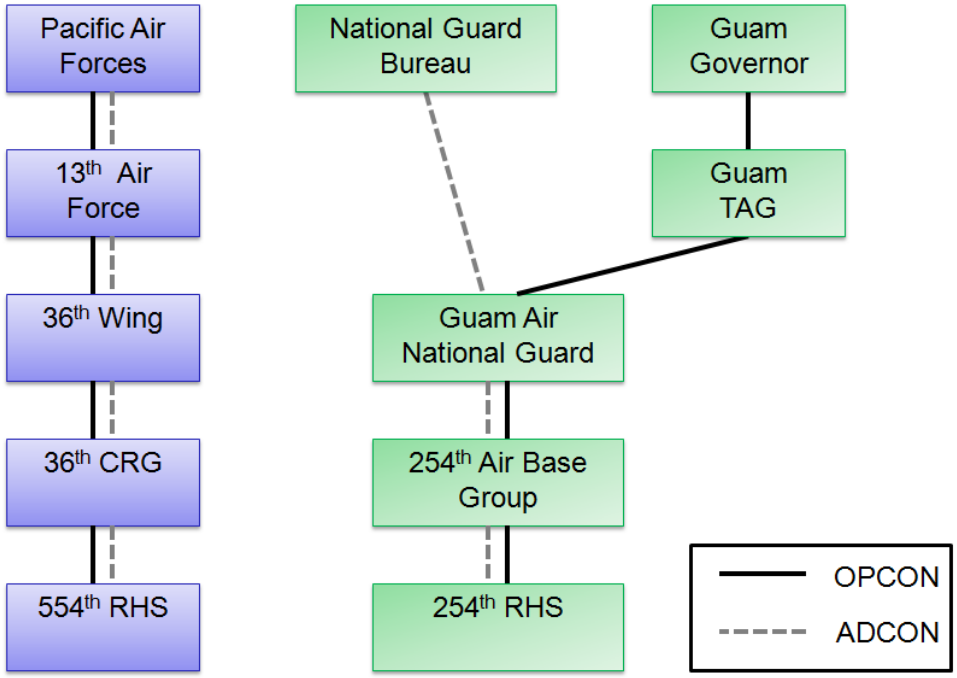

Figure 5: Andersen TFI Organizational Chart

Methodology

A nuance to the first three investigative questions that wasn't previously discussed is that each question is really examining two ideas; namely, what an outcome is and who receives the outcome. Consequently, the data needed to answer these questions must have a *what* component and a *who* component. The data could conceivably come

from a variety of sources, but the reliability, validity, and availability of the data were the primary concern.

Candidate Methodologies

The questions could be examined from a quantitative perspective by examining metrics tracked by the individual units and their respective staff agencies, but up to this point no data has been collected specific to TFI contributions. This means that construct validity—how related measures are to the concepts they are intended to measure—could be a significant concern (Shadish, Cook, and Campbell, 2002). For example, it would be difficult to establish the contributions of a TFI by comparing the readiness reporting figures between TFI units and non-TFI units because a number of contextual factors could contribute to the differences.

The questions could also be examined from a qualitative perspective using a number of methodologies such as Delphi methods, grounded theory, and case study research. A Delphi study's iterative and exploratory nature is well suited to the research question, but the focus on converging opinions and future circumstances are limitations to its utility in answering the investigative questions (Skulmoski, Hartman, and Krahn, 2007). Grounded theory is applicable to the exploratory nature of these questions and often uses interviews and data coding, both of which were used in this research, but its primary aim of creating a theoretical framework is beyond the scope of this research. Case study research, however, is adept at incorporating multiple data sources within easily definable contextual domains (Denzin and Lincoln, 2000), which make it very suitable to answer the investigative questions using the available data.

According to Yin (2009), the case study research method is appropriate for answering "how" and "why" questions, particularly when the research pertains to contemporary phenomena which are not easily influenced or controlled by the researcher. The case study researcher utilizes documents, archival records, artifacts, interviews, direct observations, and participant-observation to expand the knowledge in a subject area in either an exploratory, explanatory, or descriptive manner. In contrast to experiments that seek to control everything except a few variables of interest, case study research examines a problem within its native context to establish a holistic perspective of the problem and its contextual interactions (Yin, 2009).

Case studies should use one data source to corroborate or contend inferences made from other sources. Inferences that are consistent across multiple data sources are more convincing than inferences supported by only one source or disputed between sources. A common analysis technique used in the case study research method is cross-case synthesis. Cross-case synthesis requires multiple cases that replicate each other either literally or in fundamental theory so that data from multiple cases can be synthesized into a more generalized explanation or description of the research problem (Yin, 2009). The four classic association RED HORSE TFI initiatives are an example of cases replicating a fundamental theory.

Structured Interviews

Interviews have been used as a research tool for millennia to gather data from people experienced with a phenomenon of interest. Research interviews are systematic in nature to ensure robust data and conclusions. Interview format can vary in formality from a survey style with limited answer choices on one end of the spectrum (high

formality) to a completely open-ended dialogue on the other side of the spectrum (low formality. Structured interviews are near the middle of this spectrum and consist of targeted questions that are mostly open-ended (Vogt, Gardner, and Haeffele, 2012). Qualitative research literature (e.g. Barbour, 2001; Daniel, 2012; Tongco, 2007) suggests using purposive sampling for interviews, especially for use in case studies (Yin, 2009). In short, purposive sampling entails selecting subjects because of their unique qualifications relevant to the purpose of the research (Daniel, 2012). The deliberate selection bias of purposive sampling provides both strength and weakness. Selecting only qualified subjects enhances the internal validity—the propensity to establish causation—of a study, but doing so limits the external validity—the ability to generalize findings (Shadish, Cook, and Campbell, 2002). Another relevant sampling technique is snowball sampling, which is acquiring new subjects from the recommendations of previous subjects. Snowball sampling is one type of purposive sampling because the original selection criteria must be applied prospective new subjects to determine if they are to be included in the research (Daniel, 2012).

Textual Analysis

Savin-Baden and Major (2012) propose a five step process for handling and analyzing interview data to create meaningful information. The first step is to *cut* each interview transcript into meaningful segments that each communicates one idea. Next, each segment is given a *code* that briefly labels the idea discussed in that segment. Codes are then *categorized* into groupings that logically arrange the ideas being presented in the interview into like areas (categories) that are inclusive and mutually exclusive. The researcher then *converts* the code categories into themes, which is where the analysis

process moves from description to synthesis and evaluation. Finally, the researcher *creates* tables and figures to communicate the codes, categories, and themes (Savin-Baden and Major, 2012).

There are more specific tools within the textual analysis framework discussed above, such as content analysis, domain analysis, and thematic analysis. Content analysis examines the frequency with which words and phrases are used as well as the patterns in which they are used to characterize the text. Knowing frequency and patterns of use assists in creating categories and themes. Domain analysis assists theme creation by arranging codes and categories based on their semantic relationship to each other. Thematic analysis examines the text in a holistic manner based on intuition that comes with being very familiar with the text. This tool is often used last because previous tools increase familiarity with the text (Savin-Baden and Major, 2012).

Textual analysis can be accomplished by hand or using computer software. ATLAS.ti is a qualitative research software tool to facilitate textual analysis. The program supports text, photos, video, maps, and a host of other media, which are termed primary documents. ATLAS.ti defines the data segments from the *cut* phase as quotations, which can be created and modified as the researcher assigns *codes* the primary document. *Categorization* occurs as the researcher creates code families.

Semantic relationships, or links, can be added between codes and code families based on intuitive connection or co-occurrence. Co-occurrence is where the quotation associated with one code is the same as, embedded by, or overlapping the quotation associated with another code (Muhr and Friese, 2004). ATLAS.ti provides a count of how many times two codes co-occur as well as a C-coefficient that measures the

frequency of co-occurrence relative to each code's occurrence. The formula for the C-coefficient is

$$C = \frac{n_{12}}{(n_1+n_2)-n_{12}} \quad (1)$$

where n_{12} is the number of co-occurrences of code 1 and code 2, while n_1 and n_2 are the number of occurrences of code 1 and code 2, respectively. A c-coefficient is susceptible to the influence of high code occurrences, so ATLAS.ti flags c-coefficients where the ratio of n_1 to n_2 is beyond an established threshold. These flagged entries merit further scrutiny by the researcher to determine if a link exists (Scientific Software Development, 2014). Co-occurrence tables, network diagrams based on semantic relationships, and various reports from ATLAS.ti facilitate the *convert* and *create* steps of the textual analysis process.

Summary

This section provided the requisite background to support the subsequent analysis of RED HORSE TFI by drawing on existing articles, documents, presentations, and reports. The TFI discussion included the historical context for TFI, its purported benefits and challenges, and the associate program framework and policy. RED HORSE topic areas included doctrine, organization, operations, and a profile of the four classic associate RED HORSE TFI initiatives. These contextual areas were the basis of applying the case study research methodology focusing on textual analysis to answer the investigative questions posed in Chapter I.

III. Methodology

The methodology chapter delineates the data collection and analysis mechanisms employed to investigate RED HORSE total force integration (TFI). This research utilized case study research methods to synthesize a variety of sources to explore the RED HORSE TFI topic area and answer the research question posed in Chapter I. Specific sources scrutinized include structured interviews conducted with senior members of RED HORSE units in TFI initiatives as well as documents from those units. The topics to be discussed in this chapter include the overall case study research design, a deeper exploration of the structured interviews that were the cornerstone of the methodology, and the data processing and analysis techniques used to translate the data into useable information.

Research Design

As introduced in Chapter I, the research question in view is, "what are the beneficial and non-beneficial outcomes of TFI initiatives between RED HORSE organizations from the perspective of the units themselves and RED HORSE enterprise, and what actions can improve the benefit of these outcomes?" This question was further expanded in the four investigative questions listed below.

- How do TFI units and the RED HORSE enterprise benefit from TFI?
- What disbenefits to TFI units and the RED HORSE enterprise result from TFI?
- How do contextual factors contribute to realizing benefits and disbenefits from TFI?

- How might contextual factors be influenced to make TFI initiatives more beneficial to the constituent units, RED HORSE enterprise, and the Air Force?

Answering these questions requires data that demonstrate the outcomes of RED HORSE TFI as well as significant contextual data to identify the factors. Available quantitative data were not specific enough to isolate the contributions TFI initiatives make to their constituent units so a qualitative methodology—case study research—was adopted to collect and analyze data suitable for answering the investigative questions.

This research implemented the case study research method by investigating four TFI initiatives involving RED HORSE squadrons (RHS). The four cases were the classic associations between the 819th RHS (AD) and 219th RHS (ANG) at Malmstrom AFB in Montana, the 820th RHS (AD) and 555th RHS (AFR) at Nellis AFB in Nevada, the 823rd RHS (AD) and 556th RHS (AFR) at Hurlburt Field in Florida, and the 554th RHS (AD) and 254th RHS (ANG) at Andersen AFB in Guam. Data from these cases were the initiation documents (e.g. Integration Plans, MOUs) from each TFI initiative and the perspectives of senior members in each squadron gained from structured interviews. These interviews were the mechanism for eliciting data to characterize the contributions TFI initiatives make to the units involved.

Interview Sampling

Interview respondents consisted of senior officers and senior enlisted members from each of the eight TFI units who were selected purposively to elicit operational and strategic level perspectives on RED HORSE TFI. The selection criteria established that each unit be represented by a minimum of one officer and one enlisted member whose time in that unit was within the past two years or during an especially formative period of

the TFI relationship. Further, the sampling pool had to exhibit approximate parity between officer and enlisted perspectives as well as between active duty (AD) and air reserve component (ARC) perspectives. Using selection criteria that target a representative sample of the relevant population enhances external validity compared to selecting participants based on their experience alone (Daniel, 2012). Another factor used to screen potential interview subjects was the breadth of their RED HORSE TFI experience, with experience in multiple units or relevant staff agencies being especially desirable.

Using the above criteria, a pool of over forty interview candidates was reduced to the twenty subjects interviewed. The response rate for interviews was one hundred percent. All contacted prospective interviewees expressed willingness to participate, although one candidate recommended several other people as better candidates than himself. The sample size of twenty represented a balance between gathering multiple perspectives from each unit with ensuring a reasonable analysis workload and satisfying Air Force policy requirements. The fact that the interviews for each case reached a saturation point of ideas supports twenty as a satisfactory sample size. The saturation point is where further interviews do not yield any new ideas, only confirmation of previously identified ideas (Vogt, Gardner, and Haeffele, 2012).

Interview Protocol

Interview questions were created to directly target each aspect of the research question as broken down into the four investigative questions. A pilot study of five interviews afforded the opportunity to iteratively test, revise, and retest interview questions to ensure a suitable questioning format, improve clarity, and reduce question

bias. Next, the final interview questions, relevant protocol information (e.g. confidentiality, academic freedom), and text to facilitate a natural interview flow were compiled to create the interview guide, which is included in Appendix A. The interview guide was submitted to the Institutional Review Board (IRB) as part of a human subjects research exemption request. This exemption request was approved, and the letter granting the exemption is included in Appendix B.

The researcher contacted prospective interviewees via email or telephone to gauge interest in participation, screen interviewees based on their experience, and solicit referrals of other prospective interviewees. Interviewees were given the interview guide three business days prior to the interview to allow the interviewees to reflect on their experience and consider how they would answer the questions during the interview. This standard amount of reflection time, along with a list in the interview guide of topic areas where outcomes and factors may exist, was meant to mitigate availability bias—the tendency to focus on recent experiences and neglect older ones. Interviewees also signed a consent form (included in Appendix C) before participating in the interview to acknowledge their understanding of the interview protocol, data handling, confidentiality, and grounds of their participation.

During the interview the researcher utilized a conference telephone in a conference room at AFIT, while the interviewee was in a place of their choosing—usually the interviewee's office. The researcher read each definition or question from the interview guide verbatim to the interviewee and asked follow up questions as necessary to clarify ambiguities in interviewee responses. Despite the uniform structure and definitions provided in the interview guide, interviewees often strayed from the question

at hand to discuss questions that had not yet been asked or tangential topics. This was particularly prevalent in the questions about benefits and disbenefits, because discussing the factors contributing to those outcomes came naturally when explaining the outcomes. Consequently, the researcher recounted previously identified factors during the later questions about factors to elicit further explanation. While an effort was made to keep interviewees on topic, a natural interview flow was more important than maintaining strict relatedness between questions and answers because the post-interview analysis necessitated reorganizing answers into common themes that transcended individual questions.

Data Processing

ATLAS.ti, a qualitative research software tool, was the primary mechanism for managing and analyzing the interview data. First, each interview was transcribed using Dragon Naturally Speaking voice-to-text software. Next, each interview transcript was imported into ATLAS.ti where it was coded to characterize the ideas expressed by the respondents. Coding the interviews consisted of two rounds performed solely by the researcher; the first round to identify and label all the relevant segments of the interviews, and the second round to organize and refine the coding. Interview coding is naturally iterative, so even in the first round previously coded interviews were frequently revisited and the codes modified or additional codes applied based on developments in later interviews. For example, a respondent may use a word or phrase repeatedly, which prompted creating a code to capture that word or phrase, and that code would be applied to previous interviews because the code described an idea better than an existing code, or

described an idea that was not previously coded. The initial round of coding yielded ten code families comprised of 277 unique codes applied to 1155 quotations. The code families as well as many of the codes were created deductively, or top-down, from the research questions. The first word of each code in ATLAS.ti was its code family, but for brevity the code family label is omitted in this document (i.e. the code *Benefit: Continuity* in ATLAS.ti is shown as *Continuity*).

The second round of coding commenced after all the interviews were coded and had two objectives. The first objective was to examine the entire list of codes to merge redundant codes and ensure each code was applied consistently across all the interviews. The second round yielded the same ten code families now comprising 246 unique codes applied to 1129 quotations. The second objective was to further categorize the ten code families into subfamilies. The subfamilies were created inductively, or bottom-up, from the individual codes. Assigning codes to a subfamily was a subjective process because codes were assigned to only one subfamily even though they might fit into more than one subfamily. Also, a couple codes were not assigned to a subfamily. For example, the code *vague mention of overall benefits* was not assigned to a subfamily because it was a sweeping statement across the domain of the entire *benefits* code family. A list of code families and subfamilies is shown below in Figure 6, while the entire list of codes is located in Appendix D.

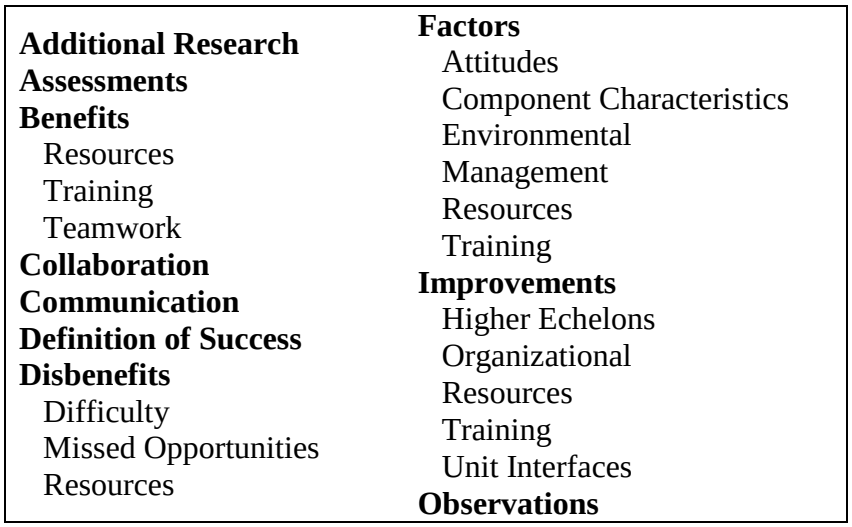

Figure 6: Code Families and Subfamilies

Outcomes discussed by interview respondents could apply to one or more of the three primary stakeholders in a TFI association; namely, the active duty unit, the air reserve component unit, and the RED HORSE enterprise. When a respondent relayed an outcome that clearly applied to only one of the three stakeholders then the quotation was coded as a benefit to that stakeholder. This stakeholder code was in addition to the code describing the outcome itself, which enabled calculating a co-occurrence between the outcome code and stakeholder code to determine which stakeholder was the primary recipient of the outcome, also known as a stakeholder tag. Not every occurrence of an outcome code included a stakeholder tag, which was the case when the quotation either associated an outcome with multiple stakeholders equally or made the association hard to distinguish. Factors were also coded concurrently, or tagged, with benefits and disbenefits in a similar manner to facilitate co-occurrence calculations.

Analysis

Content analysis, domain analysis, and thematic analysis were the primary analytical tools to extract useful information from the interviews. Content analysis was utilized to establish a precedence of outcomes and factors, such as the most frequently occurring benefits and most frequently occurring factors. ATLAS.ti facilitated content analysis by providing reports on frequency and distribution of word usage and code occurrence. Next, domain analysis entailed linking each outcome with one or more factors (e.g. factor A tends to be related to outcome X). ATLAS.ti enabled domain analysis using co-occurrence calculations, code linking, and network diagrams. The criteria for establishing a formal link between a factor and a benefit or disbenefit code was that a substantial portion of the occurrences of an outcome code needed to have a factor tag. Generally speaking, substantial meant that the C-coefficient for the two codes had to be at least 0.1or more than two interview respondents strongly emphasized the link. There were very few co-occurrences between *improvement* codes and *factor* codes, so the linking process for those two areas was mostly based on intuition and code name similarities. Finally, thematic analysis looks at the data holistically which was most helpful in synthesizing related outcome-factor relationships. Network diagrams within ATLAS.ti, as well as grouping codes into families, were integral to thematic analysis.

Summary

This research scrutinized four RED HORSE TFI initiatives through the case study methodology to examine TFI application across the RED HORSE enterprise. Twenty interviews were conducted with purposively sampled senior members of each RED

HORSE squadron. ATLAS.ti qualitative software was utilized to perform data processing and textual analysis on interview transcripts using content, domain, and thematic analysis concepts.

IV. Analysis and Results

The purpose of this chapter is to present the product of the data collection and analysis methodology presented in the previous chapter. The first section presents the information derived from the interview data to answer each of the investigative questions. The second section addresses several additional areas from the data collection that provided additional insight into the effectiveness of RED HORSE TFI initiatives.

Answering the Investigative Questions

The four investigative questions created the framework of the interview questions and directed the coding process. The following sections address each investigative question by delineating the findings in the associated code family. Each code family is examined in terms of the specific codes within the family and then as a more aggregated perspective using only the code subfamilies.

Benefits Derived from Total Force Integration

The first investigative question of this research was "how do TFI units and the RED HORSE enterprise benefit from TFI?" As discussed in Chapter III, to the maximum extent possible benefits were given a stakeholder tag to identify the primary recipient of that benefit occurrence. Table 2, below lists each benefit code (arranged by subfamily), the code's total occurrences, and how many occurrences were associated with each stakeholder (stakeholder tag). As discussed in Chapter III, not every occurrence of a benefit code included a stakeholder tag; therefore, the overall number of occurrences is not the sum of the respective stakeholder occurrences.

Table 2: Benefit Occurrences and Stakeholder Association

Code Name (total occurrences)	Subfamily	Stakeholder Tags		
		AD	ARC	Enterprise
Covering manpower shortfalls (46)	resources	21	9	3
Access to vehicles/equipment (34)	resources	0	28	0
Access to facilities (24)	resources	8	13	0
Deployment augmentation (21)	resources	7	5	4
Cost savings from shared resources (14)	resources	1	4	6
Manpower/logistics synergy (14)	resources	2	2	4
Access to more robust logistics (9)	resources	7	0	0
Additional source of resources (9)	resources	1	7	0
Vehicle Maintenance (9)	resources	4	3	0
Recruiting AD members (7)	resources	0	5	0
Good remuneration (5)	resources	0	4	0
Federal resources for state mission (4)	resources	0	3	0
Recruiting from attractive situation (4)	resources	0	3	0
Reduced Ops/Perstempo (3)	resources	1	1	0
Able to meet req # of sq equivalents (2)	resources	0	0	1
Ability to work with other units (14)	teamwork	6	4	2
Pre-existing teams (12)	teamwork	0	1	9
Inspections/exercises (10)	teamwork	5	5	0
Administrative help (7)	teamwork	6	0	0
Enhanced morale (5)	teamwork	1	3	0
Re-blueing effect (5)	teamwork	0	3	0
Template/proof of concept (5)	teamwork	0	0	2
Networking (4)	teamwork	1	1	1
Crossflow to execute staff guidance (2)	teamwork	0	0	2
Access to expertise (52)	training	17	23	0
Special Capabilities Training (25)	training	3	16	1
Troop training projects (21)	training	7	12	0
Continuity (20)	training	13	0	1
Offering training opportunities (12)	training	0	6	0
Better trained craftsmen (11)	training	1	4	3
Interoperability (7)	training	2	1	2
Careerfield professional development (6)	training	2	1	0
Training synergy (6)	training	0	0	1
Opportunity to hone leadership skills (5)	training	1	2	0
Vague mention of overall benefits (16)	N/A	0	5	0

The most frequently cited benefits that AD units derived from their TFI arrangements were access to resources such as additional manpower, funding, and small equipment items, as well as training resources such as continuity and AFSC-related expertise provided by ARC members. Prominent benefits to the ARC units from their

TFI arrangements were access to resources such as facilities, equipment, and vehicles, as well as training opportunities such as special capabilities training, troop training projects, and AD subject matter experts (SMEs). The benefit most frequently attributed to the RED HORSE enterprise was having pre-existing TFI teams from which to meet operational requirements. These pre-existing teams meant that deployments and troop training projects would involve less of the friction that comes with team building. Cost savings and other synergistic effects were also frequently occurring benefits to the enterprise.

The most commonly occurring benefits tended to fall within the *resources* and *training* subfamilies. In fact, 370 of the 450 total occurrences (82%) in the *benefits* code family are codes in the *resources* and *training* subfamilies. Table 3, below, depicts the distribution of benefits among subfamilies and stakeholders in terms of the number of occurrences and percentage of the overall *benefits* code family occurrences. As discussed in Chapter III, not every occurrence of a benefit code included a stakeholder tag; therefore, the overall occurrences and percentages are not the sum of their respective stakeholder occurrences and percentages.

Table 3: Benefit Occurrences by Subfamily and Stakeholder

Code	Overall		AD		ARC		Enterprise	
Subfamily	#	%	#	%	#	%	#	%
Training	165	37%	46	10%	65	14%	8	2%
Resources	205	46%	52	12%	87	19%	18	4%
Teamwork	64	14%	18	4%	17	4%	16	4%
N/A - "vague"	16	4%	0	0%	5	1%	0	0%
Total	450	100%	116	26%	174	39%	42	9%

Disbenefits from Total Force Integration

The second investigative question was "what disbenefits to TFI units and the RED HORSE enterprise result from TFI?" In the same way as benefits, the disbenefits may be realized by one or more of the three stakeholders and were coded accordingly, but not all occurrences of a disbenefit included a stakeholder tag. Consequently the total occurrences shown in parentheses in the leftmost column are not the sum of the respective stakeholder tags. Table 4, below lists each code and the occurrences associated with each stakeholder.

Table 4: Disbenefit Occurrences and Stakeholder Association

Code Name (total occurrences)	Subfamily	Stakeholder Tags		
		AD	ARC	Enterprise
Leadership/management challenge (43)	Difficulty	9	5	5
Hassle to accommodate other unit (21)	Difficulty	8	2	0
Lost training when equipment unavailable (13)	Difficulty	0	6	0
Perceived as less of a squadron (9)	Difficulty	3	4	0
Reinventing the TFI wheel (7)	Difficulty	0	5	0
Overcrowding the compound (4)	Difficulty	1	0	0
Inability to adapt (3)	Difficulty	1	0	1
Inability to work taskings together (25)	Missed Opportunity	7	2	3
Constraints to using ARC (22)	Missed Opportunity	5	4	1
Missed opportunity to gain benefits (14)	Missed Opportunity	1	3	1
Limited COCOM missions (1)	Missed Opportunity	1	0	0
TFI-induced burden on resources (14)	Resources	8	0	1
Overstating capabilities (9)	Resources	0	0	8
Risk from interdependencies (6)	Resources	3	0	3
Under-resourced because TFI relationship (5)	Resources	0	1	0
Insufficient logistics (3)	Resources	0	1	0
Duplication of resources (2)	Resources	0	0	1
AD make big decisions (1)	Resources	0	1	0
Vague mention of overall disbenefits (10)	N/A	2	1	1

AD units commonly experienced disbenefits from their TFI arrangements in added difficulties such as leadership and management challenges or hassles that arose from working with their TFI teammate. Inabilities to deploy together and execute TTPs

together, general constraints to leveraging ARC members and resources, as well as the TFI-induced drain on resources were other frequently cited disbenefits. The most recurrent disbenefits to the ARC units from their TFI arrangements were difficulties such as leadership and management challenges, "reinventing the wheel" when new AD leadership arrived, being perceived as subordinate to their AD counterpart, and being unable to accomplish training when vehicles or equipment were unavailable. Another notable disbenefit to the ARC units was missing opportunities to collaborate and leverage their TFI teammate due to ARC-centric constraints.

The code *leadership/management challenges* was widely occurring and encompassed many situations that ultimately boiled down to an increased difficulty for squadron leadership and supervisors to navigate a given situation involving the TFI. A prominent example was diffusing resentment or disagreement arising from differences in priorities, policies, and culture between components. Another frequently occurring example pertained to the appropriate application of ARC member skills, especially when those members were placed in leadership positions. Other instances of management-related challenges were where additional administration, planning, funding, or resources were required to collaborate with TFI partners. These situations were discussed enough to merit their own code, *hassle to accommodate other unit.*

The most prevalent disbenefit to the RED HORSE enterprise was that TFI created the impression of greater capability on paper than what actually existed. This overstating capability primarily related to the two additive TFIs and TFI in a deployed setting where a disparity may exist between what is expected from a fielded force based on the manpower numbers and the actual capability of that fielded force based its composition.

For example, the entire TFI team from Andersen AFB may not be available for a deployment because the two units have different dwell requirements. Also, in the deployed setting, a fielded force composed of mostly ARC members may have more apprentice level members because having only thirty-nine training days per year means it takes longer to upgrade ARC members.

The most commonly occurring disbenefits tended to fall within the *difficulty* subfamily. Also, there was a slight tendency for the AD unit to be the recipient of the disbenefits. Table 5, below, depicts the distribution of disbenefits among subfamilies and stakeholders in terms of number of occurrences and percentage of the overall *disbenefits* code family occurrences.

Table 5: Disbenefit Occurrences by Subfamily and Stakeholder

Code Subfamily	Overall		AD		ARC		Enterprise	
	#	%	#	%	#	%	#	%
Difficulty	100	47%	22	10%	22	10%	6	3%
Missed Opportunity	62	29%	14	7%	9	4%	5	2%
Resources	40	19%	12	5%	3	1%	13	6%
N/A - "vague"	10	5%	2	1%	1	0%	1	0%
Total	212	100%	49	23%	34	16%	25	12%

Factors Affecting TFI Outcomes

The third investigative question was "how do contextual factors contribute to realizing benefits and disbenefits from TFI?" Discussing factors yielded the widest variety of responses and largest number of codes—there were 74 different codes in the *factors* code family. Table 6, below lists the factors linked to at least two outcomes. The majority of factors were linked to either benefits or disbenefits. The few factors linked to both benefits and disbenefits were either *component characteristics* or *environmental* and

didn't have an explicit polarity such as *lacking* or *good*. An example is *ARC longevity/stability*, which allows the ARC to provide continuity for the frequently rotating AD, but also requires the ARC to frequently build new relationships with AD and navigate the AD's tendency to "reinvent the wheel." In this case this inherent characteristic of the ARC reaps a benefit for the AD and a disbenefit for the ARC. Consult Appendix E for the entire list of links between factors and outcomes.

Table 6: Prominent Factors and Links to Outcomes

Code Name (total occurrences)	Links		Code Subfamily
	Benefits	Disbenefits	
Good rapport (38)	4	0	Attitudes
Cooperation - lacking (13)	0	2	Attitudes
Cooperation - positive (32)	2	0	Attitudes
Trust - sufficient (11)	2	0	Attitudes
ARC schedule (21)	0	3	Component Characteristics
Different dwell rates (19)	0	3	Component Characteristics
Differing organizational culture (22)	0	3	Component Characteristics
Ancillary burden on ARC time (11)	0	2	Component Characteristics
ARC longevity/stability (17)	1	1	Component Characteristics
Frequent AD rotation (22)	1	1	Component Characteristics
Local connections (7)	2	0	Component Characteristics
Co-location (30)	6	0	Environmental
Additive TFI to make composite 404 (24)	1	2	Environmental
PRTC (19)	2	1	Environmental
Support from civilian sector (3)	3	0	Environmental
Deployed in place (6)	0	2	Environmental
Different priorities (19)	0	3	Management
Adaptive application of ARC member skills (18)	2	0	Management
Insufficient analysis (4)	0	2	Management
Planning - insufficient (12)	0	2	Management
Insufficient mandays (10)	0	3	Resources
Funding - sufficient (8)	2	0	Resources
Disparate capability between components (6)	0	2	Training
Totals	28	32	

The factors most frequently linked to benefits included the units being co-located, good rapport between unit members, and strong support from the civilian sector. Disbenefits were most often linked to factors such as the ARC's schedule (i.e. one weekend per month and two weeks per year), different dwell requirements for AD and

ARC forces, differing organizational culture between components, the components having different priorities, and an insufficient allotment of mandays. Table 7, below, incorporates all 74 factors to show the links between outcomes and *factor* code subfamilies.

Table 7: Factor Links by Subfamily

Code Subfamily (number of codes)	Links			Total Occurrences
	Benefits	Disbenefits	Total	
Attitudes (14)	9	8	17	177
Component Characteristics (14)	4	17	21	172
Environmental (21)	14	9	23	134
Management (15)	6	10	16	102
Resources (5)	3	4	7	52
Training (5)	2	3	5	46
Total	38	51	89	682

Environmental factors and the intrinsic characteristics of each component were the two code families most frequently linked to outcomes. For the disbenefits, component characteristics and management-related factors were especially prominent, although environmental factors and attitudes also demonstrated many links. For benefits, environmental factors and attitudes were the most frequently linked factors. An interesting characteristic of the *component characteristics* subfamily is that it exhibited approximately one third more links per code than the other subfamilies.

Improving TFI Outcomes

The fourth research question was "how might contextual factors be influenced to make TFI initiatives more beneficial to the constituent units, RED HORSE enterprise, and the Air Force?" To assist in answering this question, each respondent was explicitly asked what they would do to improve TFI, and those improvement suggestions were

linked to the contextual factors discussed in the previous section. The respondents provided 73 suggested improvements that yielded 38 unique improvement suggestions (codes) which were grouped into five subfamilies. Those codes exhibiting multiple occurrences or greater than three factor links are displayed below in Table 8.

Table 8: Prominent Improvements and Factor Links

Code Name (occurrences)	Code Subfamily	Factor Links
Enterprise-level perspective (4)	Higher Echelons	3
Better staff level coordination of TTPs (2)	Higher Echelons	4
Better staff level synchronizing resources (2)	Higher Echelons	3
Address readiness reporting implications of additive TFI (2)	Higher Echelons	2
Better understanding/familiarity across community (1)	Higher Echelons	5
Submit joint training plan to ACC (1)	Higher Echelons	5
Unified command structure (5)	Organizational	3
RED HORSE wing/groups (4)	Organizational	3
Additive TFI model as standard (3)	Organizational	2
Funding specifically for TFI (7)	Resources	3
Carve out TTP money to facilitate planning (2)	Resources	2
Provide funding to cover TFI-induced burden (2)	Resources	4
Provide mandays/funding to keep ARC proficiency up (2)	Resources	3
Reduce ARC recurring CBT requirements (4)	Training	3
More emphasis on planning (5)	Unit Interfaces	1
Sync deployments (4)	Unit Interfaces	4
Force collaboration (3)	Unit Interfaces	4
Propagating best practices (2)	Unit Interfaces	3
Dialog of each component's needs & way ahead (1)	Unit Interfaces	4
Involve ARC in deployments to maintain viability (1)	Unit Interfaces	4

The most cited improvement was to provide funding that is directly tied to the TFI initiative which was manifested in two codes, *funding specifically for TFI* and *provide funding to cover TFI-induced burden*. The former pertained to enhancing the TFI relationship by providing funding earmarked for collaborative activities, while the intent of the latter was offsetting the increase in AD resource expenditures from maintaining vehicles, equipment, and facilities that are used by two units. Another prominent

improvement idea manifested across two codes, *unified command structure* and *RED HORSE wing/groups*, was to formally unite the command structure to promote common goals and unity of effort. A third commonly expressed improvement idea was to make a more deliberate effort to work together as conveyed in the codes *more emphasis on planning, sync deployments, and force collaboration*. Table 9, below, summarizes all the occurrences of *improvement* codes and factor links by subfamily.

Table 9: Improvements Subfamilies and Factor Links

Subfamily	Codes	Occurrences	Factor Links
Higher Echelons	11	18	30
Organizational	7	16	18
Resources	6	15	17
Training	6	9	15
Unit Interfaces	8	18	25

Additional Insight into TFI

Several interview questions pertained to relevant data that was not explicitly addressed by the four investigative questions. These questions were included to capture a broader sense of the context of each TFI initiative and are the basis of the six code families that have yet to be discussed. Two of these code families provided added insight into how successful or unsuccessful TFI initiatives are perceived to be, as well as the reasons for those perceptions. Another two code families explored the degree to which TFI units interact. One of the code families consisted of suggestions for future RED HORSE related research and will be discussed in Chapter V. The last code family is a collection of observations made by interview respondents that fall outside the other nine families.

Assessments of and Criteria for Success

One of the last interview questions asked for the respondent's assessment of TFI successfulness as well as the criteria the respondent used to make that subjective assessment. The code families that resulted from this question were *assessments* and *definition of success*. Table 10, below, lists the definitions of success, how many respondents used each one, and the number of times an assessment was associated with a given definition of success. Each occurrence of an assessment code corresponds to a respondent's assessment of the success of a specific TFI initiative. Fourteen TFI initiatives were assessed as *successful*, four assessed as *moderately successful*, and three assessed as unsuccessful. There are more than twenty assessments of success because some respondents were involved in and made assessments of multiple TFI initiatives. Also, many respondents listed more than one definition of success, so each of those definitions was applied to each of the respondent's assessments.

Table 10: Assessments and Definitions of Success

Success defined by 20 experts (occurrences)	Assessment		
	Successful	Moderate	Unsuccessful
Mission accomplishment (14)	12	2	0
Cohesiveness between units (10)	7	2	1
Successful deployments (9)	6	2	1
Successful inspections (6)	5	1	0
Better trained organizations (3)	2	0	1
Making better use of resources (3)	2	1	0
Covering manpower gaps (2)	1	1	0
Interoperability (2)	1	0	1

The sample size and the nature of the interview question preclude making strong assertions, but generally speaking it appeared that mission accomplishment and inter-unit cohesiveness were common criteria for gauging TFI success. Deployments and

inspections, a subset of the RED HORSE mission, seemed to be particularly relevant data points for characterizing mission accomplishment. Interestingly, the codes *better trained organizations*, *making better use of resources*, and *covering manpower gaps*, which speak to synergies touted by champions of TFI were among the least common criteria for gauging TFI success. In summary, it appeared that a deficiency in accomplishing the mission as a cohesive team may correlate with unit leaders assessing the TFI as less than successful. Again, these trends were based on a small sample and an interview question not meant to objectively characterize the success of TFI.

Interaction between Units

One of the first interview questions asked the respondent to characterize the interaction between the two TFI units in terms of communication, collaboration, and perceptions. The perceptions were coded as factors and were included in the discussion above, but the other two topics each became a code family. Inter-unit communication was divided into four codes: *event driven*, *routine meetings*, *constant interaction*, and *copied on emails*. Typically respondents listed more than type of communication. Table 11, below, portrays the relationship between inter-unit communication and perceived TFI success (assessment). The occurrences shown in parentheses in the first column list how many of the twenty-one TFI initiatives with a success assessment exhibited each communication type. It appeared that *successful* TFI initiatives incorporated several communication methods and frequencies. The bottom two communication methods represent intentional communication that is not solely spurred by an upcoming event or regularly scheduled meeting and were only exhibited by *successful* TFI initiatives.

Table 11: Communication and Perceived TFI Success

Communication Code (occurrences)	Assessment		
	Successful	Moderate	Unsuccessful
Event driven (16)	12	3	1
Routine meetings (15)	9	4	2
Constant interaction (6)	6	0	0
Copied on emails (2)	2	0	0

The second dynamic of interaction between TFI units is their collaboration. Table 12, below displays the relationship between collaboration and perceived TFI success (assessment). The occurrences shown in parentheses in the first column list how many of the twenty-one TFI initiatives with a success assessment exhibited each collaboration type. Respondents often listed more than one type of collaboration, but it appeared that *successful* TFIs incorporated several collaboration types. Also notable is that *unsuccessful* TFIs had no collaboration on *inspections/exercises* or *deployments*, both commonly used as definitions of success as discussed above. *Moderate* TFIs also had few occurrences in those two areas.

Table 12: Collaboration and Perceived TFI Success

Collaboration Type (occurrences)	Assessment		
	Successful	Moderate	Unsuccessful
Troop Training Projects (14)	12	1	1
AFSC training (13)	10	2	1
Inspections/exercises (10)	10	0	0
Homestation training (7)	5	2	0
Extracurricular (6)	5	1	0
Deployments (5)	4	1	0

Themes from Respondent Observations

Throughout each interview there were instances where a respondent would make an interesting remark that did not directly answer the question at hand, but in several

instances these *observations*—as they were coded—would be repeated by multiple respondents. The following is brief summary of the observations made by at least three of the twenty respondents. Similarities in the number of respondents making an observation do not imply that the same respondents made each observation.

The first recurring theme was that the respondent thought their TFI initiative was the best in RED HORSE. Such observations came from members of all four TFIs. Of the seven respondents claiming to have the best TFI there was a four to three split between ARC and AD, and a four to three split between enlisted and officers. Claiming one's TFI initiative is the best in RED HORSE is subjective, and in all but one case the claim coincided with the member assessing their TFI initiative as successful. The one outlier assessed his TFI initiative as moderately successful and asserted that TFI across the RED HORSE enterprise is moderately successful.

The next recurring theme was that the respondent's TFI initiative had made positive progress since the respondent arrived at the squadron. Five of the twenty respondents made mention of positive progress. This observation was particularly prevalent among respondents who were present when the TFI was initiated. The passing of time allows opportunities for unit members to become familiar with each other. Also, it takes time to establish and fine-tune processes.

Another recurring theme was that the success of a TFI is dependent on personalities, especially those of squadron leadership. Five respondents emphasized personalities as a critical factor in effectively leveraging TFI. This observation differed somewhat from the *attitude* subfamily in that those quotations coded as factors depicted either a positive or negative effect from personalities, while this observation depicted

personalities as a teeter-totter; the TFI could swing to one side (successful and beneficial) or another (unsuccessful and disadvantageous) depending on the personalities involved. An interesting counterpoint was that junior airmen tended to immediately buy in to the TFI and cooperated well regardless of the personalities of leadership.

The next recurring theme was a perceived fear that the ARC would break equipment during their drill weekend. Five respondents, including both AD and ARC members, made this observation. Members relayed that the AD would have to hold back equipment critical to upcoming TTPs or risk project delays and the headache of determining who was going to pay for the damage. This observation seemed to be an example of parochialism because respondents based this fear on anecdotes heard from others rather than firsthand experience.

Yet another recurring theme was that TFIs with geographically separated units or between RED HORSE and Prime BEEF units are ineffective. This observation was made by five respondents. The geographically separated units don't realize cost savings from shared resources and communicated and collaborated infrequently. The active associate TFI initiatives between RED HORSE and Prime BEEF units have potential to realize cost savings from shared resources, but the units do not have a common mission, which minimizes the incentive to collaborate.

The last recurring theme from respondent observations was that the objectives and measures of effectiveness (MoEs) set forth in integration plans are not appropriate for RED HORSE TFI initiatives. Respondents relayed that these MoEs exist for all units and are minimally impacted by having a TFI, or TFI effects are difficult to distinguish from other effects. An additional observation was that these goals were more affiliated with a

flying mission where production—maximizing the use of an aircraft—is the primary impetus for TFI. Conversely, the RED HORSE peacetime mission is training to ensure a wartime capability, while production—creating new facilities—is an indirect benefit. Therefore, the MoEs for a RED HORSE TFI should measure training in relation to cost to validate that TFI is adding value to the RED HORSE enterprise.

V. Conclusions and Recommendations

This chapter culminates the research effort in RED HORSE TFI by providing conclusions and recommendations from the collected data and subsequent analysis. The first section reviews the research objective and describes how the data answered the four investigative questions. The second section discusses the significance of this research to the Air Force and to the RED HORSE community in particular. The third section contains several recommendations to improve the outcomes of RED HORSE TFI. Finally, the last section presents future research opportunities.

Research Objective Addressed

The overarching objective of this research was to understand how TFI units can maximize the benefit from their CSAF-directed associations. This objective spurred the research question, "what are the beneficial and non-beneficial outcomes of TFI initiatives between RED HORSE organizations from the perspective of the units themselves and the RED HORSE enterprise, and what actions can improve these outcomes?" This research question was further subdivided into four investigative questions. A case study methodology encompassing structured interviews with twenty senior RED HORSE members and framed by various RED HORSE and TFI-related documents revealed prevailing outcomes and factors as experienced by the units themselves as well as the RED HORSE enterprise. Interview respondents proposed many ideas for improvement, which were examined in light of the outcome and factor discussions.

The first investigative question asked "how do TFI units and the RED HORSE enterprise benefit from TFI?" The data indicated that the nominal intent of TFI to

synergize efforts between components and more effectively use scarce resources is being met in the RED HORSE community. Interview respondents frequently identified cost savings from sharing resources and synergies in manpower, logistics, and training. Table 3 illustrated that the ARC received the greatest share of the benefits, which was an expected finding because TFI is conceptually designed such that the associate unit leverages the host unit's resources. Benefits for the AD typically resulted from incorporating ARC manpower or unique capabilities garnered from civilian employment to enhance training and accomplish taskings (see Table 2), which gets back to synergizing efforts between components. Meanwhile, the most frequently cited benefit to the RED HORSE enterprise was being able to capitalize on these synergized efforts by employing a pre-existing TFI team to meet mission requirements, rather than constructing an ad hoc team that must navigate teambuilding while striving to accomplish a mission.

The second investigative question asked "what disbenefits to TFI units and the RED HORSE enterprise result from TFI?" The data indicated that each TFI stakeholder receives disbenefits which may be trivial or quite prominent depending on the situational context and the attitudes of the organizations. ARC units face leadership and management challenges as well as risks to their ability to execute planned training brought on by their dependency on resources owned by an AD force that is constantly in flux. On the other hand, the AD experiences leadership and management challenges along with a perceived drain on their resources. Although the leadership and management challenges are different for AD and ARC, 72% (31/43) of the occurrences of the *leadership/management challenges* code co-occurred with codes from the *component characteristics* code subfamily indicating that these challenges for both

components often stem from differing organizational climates brought about by differing administration and policy between components. These differences in organizational climate, which are often described as cultural differences between components, can precipitate parochialism that results in resistance to collaboration or friction when collaboration does occur.

The third and fourth questions asked "how do contextual factors contribute to realizing benefits and disbenefits from TFI, and how might contextual factors be influenced to make TFI initiatives more beneficial to the constituent units, RED HORSE enterprise, and the Air Force?" Interview respondents posited a number of factors contributing to the outcomes they identified (see Table 6), and it is in the manipulation of these factors that outcomes may be improved. The code subfamilies divide factors into topic areas, but another relevant distinction is whether a factor is internal or external, which indicates the ease with which a factor may be manipulated. If a RED HORSE organization or relevant staff agency cannot directly control the factor then it is external. Those factors within their direct control are internal factors. The PRTC is a good example of an external factor because it influenced the outcomes in the Andersen TFI and it is outside the span of control of the 254th and 554th RHS leadership. Consequently, leaders in the two units must take actions to mitigate the associated negative effects and maximize the associated positive effects so that the resulting outcomes are mostly benefits. Conversely, the rapport between units is an internal factor that may be improved by more frequent interaction, teamwork, and trust building. There may be interdependencies between factors that must also be addressed in developing manipulation or mitigation strategies. Returning to the rapport example, teamwork may

require resources (e.g. for a TTP), and differing organizational culture may have a moderating effect on trust building. The *component characteristics* discussed above, which are frequently linked to *leadership/management challenges*, are external factors, so it is not easy to manipulate them directly. However, the way in which these *component characteristics* are viewed is more likely a matter of *attitudes*, which are more easily influenced because they are internal factors. The second recommendation, found in the Manage Attitudes toward TFI to Improve Benefits section, provides suggestions for exploiting this interdependency between attitudes and component characteristics to improve the benefits of TFI initiatives.

The respondent-provided improvement suggestions had a strong connection to the posited factors (see Table 8). The logical connection from desired outcome to contributing factor to improvement suggestion, exemplified in Figure 7 below, adds to the credibility of these suggestions as viable options to improve TFI outcomes. However, TFI stakeholders need to consider the internal or external nature of the factors involved before attempting to implement an improvement suggestion to ensure that the improvement is within their authority. The most recurrent respondent-provided improvement suggestions are incorporated into the recommendations discussed later, but Appendix F includes the entire list of improvement suggestions with the related factors and outcomes for each suggestion. Appendix F can be a tool for RED HORSE leaders to apply explicit suggestions from the panel of experts to address situations faced by RED HORSE TFI initiatives.

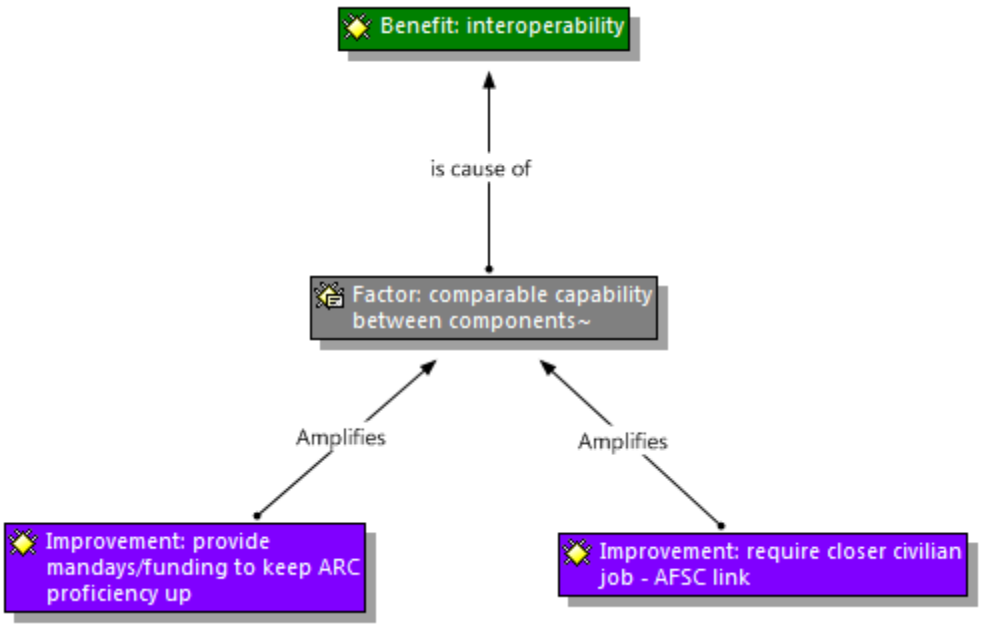

Figure 7: Outcome – Factor – Improvement Logic Chain

Significance of Research

This research was a systematic inquiry into the previously unstudied topic of AF TFI in a non-flying mission area. Total force integration within the AF was created with the flying community in mind, and subsequent academic analysis of TFI has been exclusively within that same domain. Many parallels exist between a flying TFI and a combat support TFI, but the circumstances are substantially different between the two communities and merit separate examination. Studying RED HORSE directly yields more appropriate and specific recommendations than analogizing flying-related TFI research. Further, adapting lessons from this research to other combat support functional areas may be more straightforward than making analogies from flying TFIs because RED HORSE shares more commonalities with other combat support functions. In fact, RED HORSE is an ideal area for pilot research in combat support TFI because RED HORSE

squadrons integrate nearly every combat support function so they can be self-sustaining units.

The case study methodology used in this research characterizes the contributions of TFI in a primarily qualitative—the outcomes and contributing factors—manner, but also adds a quantitative dimension—how prominent an outcome is or how many TFIs exhibit a collaboration type. This research is relevant to current and future RED HORSE leaders because it communicates the spectrum of benefits and disbenefits TFI units receive as well as factors that contribute to receiving those outcomes. Understanding the outcomes of TFI can assist with benchmarking and sharing best practices, communicating benefits that TFI brings, and increasing awareness of the disbenefits incurred from TFI. Examining contributing factors to TFI outcomes is the first step to being able to improve those outcomes. The recommendations that follow and the improvement suggestions listed in Appendix F are immediate strategies that RED HORSE leaders can apply as appropriate to their situation. RED HORSE TFI initiatives are expected to persist for the foreseeable future so improvements resulting from this research should enable the AF to better leverage relationships and resources within the RED HORSE community. Further, the richness of the data collected during this research effort—interviews alone constituted over 26 hours of audio that translated to 240 pages of transcripts—provides ample opportunity for further research to develop additional tools to inform policy and decision making with regards to TFI.

Recommendations

This section synthesizes factor-outcome relationships as well as respondent-provided improvement suggestions into three recommendations. The first recommendation concerns the expectations of ARC members in terms of their ancillary and AFSC-related training. The second recommendation pertains to managing attitudes toward TFI as a means to improve outcomes. The third recommendation considers how an emphasis on enterprise level engagement and planning could create more beneficial TFI outcomes than the current conditions. Greater vision focus guiding TFI implementation in RED HORSE organizations would provide the appropriate framework to evaluate these three recommendations.

When trying to improve TFI, a good starting point would be to ensure that leaders throughout the RED HORSE community have a clear and consistent understanding of the expectations regarding TFI. Respondents used eight different criteria to measure TFI success revealing that they varied in their perceptions of what it meant for a TFI to be successful. Further, they varied in their perception of whether TFI units were meant to be good neighbors that share resources, a cohesive team postured for joint employment, or something in between. Clarifying expectations could come in the form of a playbook to communicate the vision senior leaders in the AF CE community (e.g. the CE Council) have for RED HORSE TFI and add specificity to the broad Air Force TFI vision contained in AFI 90-1001. Perhaps the most important aspect of RED HORSE-specific TFI guidance would be clear objectives for RED HORSE TFI initiatives. The respondents who were aware of the objectives and measures of effectiveness spelled out in integration plans felt that these objectives and measures were not helpful in indicating

TFI effectiveness. This TFI vision and its corresponding objectives should feed into resource allocation to ensure that both words and actions from headquarters convey clear expectations to TFI units. For example, if a primary objective of RED HORSE TFI is to create cohesive total force teams to meet combatant commander requirements then units should receive resources to facilitate inter-unit cohesion, such as MPA days for ARC units or funding specifically for TFI training and projects. Naturally, efforts to improve inter-unit cohesion must be grounded in the AF objective for TFI of making more effective and efficient use of limited resources.

Ensure Appropriate Training Expectations for the ARC

A frequent area of discussion during interviews was whether training requirements for ARC members are appropriate and how that impacts their relationship with their AD teammate. One requirement noted by seven respondents was that the ARC has to overcome a significant ancillary training burden levied upon their very limited training time. Traditional ARC members serve for 39 training days (two weekends per month and one two-week period) per year to accomplish the same required training that the AD has 275 workdays (accounting for weekends, holidays, and 30 days of leave) to accomplish. Often training frequencies for ARC members are reduced by half compared to AD, yet they are allotted only one seventh of the training time. The ancillary burden is particularly poignant for TFI because when ARC members are doing ancillary training they are not working with their AD counterparts to build rapport and skill proficiency. Respondents affirmed the connection between ancillary training and missing opportunities to leverage TFI in that 73% (8/11) of the occurrences of the *ancillary*

burden on ARC time code co-occurred with at least one code from the *missed opportunities* subfamily.

Knowing that ancillary requirements are outside the CE community's span of control, leaders within the CE and RED HORSE communities should consider how to best cultivate predictably consistent capabilities across the total force. Meeting training requirements for any component is governed by time constraints, resource constraints, and how time and resources are allocated. It follows then that either the constraints and resource allocation must be adjusted to meet the requirements or the requirements must be adjusted to meet the constraints and resource allocation. Starting with the requirements adjustment to meet the constraints and resource allocation, one alternative could be to narrow the scope of proficiencies expected of ARC members. This could take the form of prioritizing the training requirements or removing some requirements outright. An example could be allowing ARC members to specialize in a subset of the required craft-specific skills, particularly in career fields with extensive requirements such as equipment operations (3E2X1). This arrangement could require greater managerial finesse in allocating members to work crews, but nine respondents relayed that balancing work crew composition based on member's capabilities is already a common practice in multi-component projects.

If reducing requirements for ARC members is untenable, then the constraints and resource allocation must be modified. Having mechanisms in place for ARC members to gain and maintain AFSC skills outside drill weekends and annual tours relaxes the constraints by giving members more time to meet the requirements. One such mechanism is to allocate mandays for traditional reservists and guardsmen to join the AD

unit's training events or to come in for training events facilitated by full-time ARC members. Members of an unofficial classic associate explosive ordnance disposal (EOD) TFI noted that additional training for ARC members beyond the required 39 training days was critical to maintaining skill proficiency and qualification, and training together enhanced trust between AD and ARC members (Hood, 2014; McCrackin, 2014).

If requirements cannot be reduced and constraints cannot be relaxed, then the way resources are allocated must be modified. When it comes to allocating human resources, requiring members to be employed in the construction industry for entry into a construction AFSC would mitigate degradation of perishable skills. Having members that work in construction as civilians does not explicitly contribute to meeting training requirements unless policies are in place that account for the AFSC-relevant experience ARC members gain when their civilian work is in related field. Nonetheless, having ARC members that bring relevant civilian expertise is regularly touted as a force multiplier in literature (e.g. Riche et. al, 2007; Sotallaro, 2008) and was cited as such by fifteen of the twenty respondents. Further, 65% (11/17) of the occurrences of the *access to expertise* code that were tagged as a benefit to the AD co-occurred with the *competence from working everyday in craft* code. Restricting construction AFSCs to members in civilian construction vocations could pose a significant challenge to recruiting, but even a quota to increase the percentage of members with civilian construction experience could substantially improve a unit's capability. A possible next step toward implementing this restriction would be further research into quantifying the current amount of relevant civilian employment in the ARC and establishing criteria to determine exactly what jobs are relevant.

TFI initiatives provide an ideal opportunity to cultivate ARC skill level progression because the additional training opportunities and expertise provided by the AD, but resources and positive attitudes are required to make it happen. Opportunities to leverage AD classes and TTPs mostly happen on weekdays, which makes mandays and civilian sector support a prerequisite to capitalizing on those opportunities. In terms of attitudes, some AD members may resent a requirement to train their ARC counterparts, but they may also be overlooking the training value found in the preparation for and act of teaching others. Setting clear expectations provides decision makers and unit leaders with a common understanding to align resources and unit level execution.

Manage Attitudes toward TFI to Improve Benefits

A highly recurring theme cited by all twenty interview respondents was that organizational attitudes and the attitudes of unit members were prominent factors in what outcomes would result from TFI, as well as the magnitude of those benefits or disbenefits. Table 7 illustrates that attitudes are relatively important contributors to TFI outcomes. More importantly, all the codes in the *attitudes* subfamily are internal factors, meaning they may be directly influenced by RED HORSE leaders. Therefore, a two pronged approach at managing attitudes rooted in change management and diversity management is proposed. These two fields are especially relevant to TFI because at the most fundamental level TFI is bringing two dissimilar (i.e. diverse) organizations together to create a new (i.e. changed) partnership with a common mission. Leaders of TFI organizations could do well to incorporate lessons from change management and diversity management literature, but because of their increased span of control leaders above the unit level could make even greater gains by learning from these two fields.

The first strategy to manage attitudes is to increase buy-in, especially at the unit leadership level, to bring about more positive attitudes toward TFI and improve outcomes. Buy-in reflects a person's commitment to and sense of ownership in a concept or initiative, and eleven respondents explicitly connected sufficient buy-in with benefits or lack of buy-in with disbenefits. One important aspect of obtaining buy-in is for members to understand the vision behind a particular concept or initiative (Argyris, 1998), which is reinforced by clear objectives to measure how effectively an initiative is meeting that vision. In the case of TFI, unit leadership needs to have a clear understanding of the vision behind implementing TFI in their units. Members of the Andersen and Malmstrom units relayed that the vision behind their TFI initiatives was quite clear because the units at each location were dependent on each other to muster a full RED HORSE squadron equivalent. Consequently, the leaders of those organizations had very positive attitudes toward TFI and attempted to maximize the benefits derived from their TFI initiative. In fact, 84% (53/63) of the quotations by members of Andersen and Malmstrom units coded with a code from the *attitudes* subfamily referred to positive attitudes and the benefits that resulted. In contrast, only 52% (80/154) of all the quotations with codes from the *attitudes* subfamily referred to positive attitudes. The two additive TFIs are an example of an external factor, their mutual dependence, creating a good understanding of the vision behind their TFI which improved an internal factor, their buy-in, and ultimately resulting in benefits Other stimuli could potentially generate a clear understanding of the TFI vision, such as the Civil Engineer's vision proposed earlier, combined with an effective communication strategy for propagating that vision out to unit leadership, and even down to the lowest Airman.

An important aspect of a TFI vision for the RED HORSE community is emphasis on what each stakeholder stands to gain from TFI. This research could be one of many references used to help communicate TFI benefits. Seeing where one could benefit from an initiative develops a sense of ownership in the initiative, which is an important aspect of obtaining buy-in (Trader-Leigh, 2002). Even more than seeing potential benefits, actual involvement in developing an initiative could create a sense of ownership, also referred to as internal commitment, in that initiative (Argyris, 1998). 73% (8/11) of the occurrences of the *buy in – sufficient* code came from members who had formative roles in the development of their TFI initiative (e.g. helped stand up the TFI initiative). Seven of the eight members having formative roles also assessed that their TFI was successful. The eighth member expressed optimism that the TFI would be successful, but stopped short of making an actual assessment because he left while the TFI initiative was still in its early stages and too soon to justifiably assess success. Involvement could be encouraged by requesting input from TFI units and then acting on that input. For example, if ACC created a task force to develop a concept of operations for joint inspection of TFI units then the members of that task force would have a greater sense of ownership and, perhaps, more buy-in to TFI. Similar initiatives could be conducted where the two unit commanders in a TFI initiative create a task force of members from both organizations to handle meaningful issues for their TFI initiative.

The second strategy to manage attitudes in TFI associations is to establish and emphasize processes as a means for making outcomes less affected by attitudes. The premise for this strategy is that a simple, repeatable process will produce more reliable results than if a process is too complex or not present at all. Simple, repeatable processes

make accomplishing tasks routine rather than variable and create clear understanding of the roles and responsibilities of each process member (Project Management Institute, 2013). It follows that if fewer members are involved in a process and the role expected of each member is clearly understood then the outcome of the process will be less influenced by eccentricities of process members.

An example synthesized from two interviews pertaining to managing vehicle use by the associate unit during drill weekends will illustrate this concept of processes to TFI RED HORSE units. As a starting point, an associate unit needs a consistent mechanism for identifying their vehicle requirements to the host unit. In one case this mechanism was that several senior enlisted members from the associate unit individually walked into the host unit's vehicle operations shop throughout the Friday before a drill weekend, each with separate vehicle requests. Consequently, these associate unit members were met with resistance and the associate unit's requirements were not fully met. This is an example of an insufficiently developed process that caused the outcome to be highly influenced by the host unit members' attitude. In another case, a drill training plan prepared at a standard duration before a drill weekend included a consolidated vehicle request that was submitted to an appropriate point of contact within the host unit. This host unit point of contact could quickly deconflict the vehicle requirements of the two units so that both the vehicle operations shop and the associate unit had time to act upon the request in a manner that was solely based on vehicle availability and not on attitudes. This is an imperfect example, but it illustrates how haphazard and inconsistent processes create more opportunity for attitude-related disbenefits than simple, repeatable processes that streamline tasks. The utility of simple, repeatable processes is equally valid, and

perhaps more impactful, at higher echelons due to the increased span of control those higher echelons possess.

These two proposed strategies for managing attitudes may be challenging to implement, but each strategy complements the other to maximize their impact. The implementation challenge lies in both strategies requiring consistent deliberate effort, but the results of both are touted by management literature (e.g. Argyris, 1998; Belout and Gauvreau, 2004; Project Management Institute, 2013) to be well worth the effort. An example of synergy from the two strategies is that processes are easier to establish when process members have buy-in to the mission the processes support. Also, an indirect effect of the processes is that by minimizing the influence attitudes have on inter-unit activities these processes reduce the chance of worsening attitudes.

Emphasize Enterprise-level Engagement and Planning

A third area of frequent discussion, mentioned in nine of the interviews, was the ad hoc nature of the RED HORSE community and how a shift toward greater enterprise level management could enhance TFI initiatives. RED HORSE organizations derive some of their ad hoc nature from their expeditionary mindset that comes from a peacetime mission solely focused on wartime readiness. In an expeditionary environment the nature of the work—dauntingly large tasks that must be completed very rapidly—along with the often austere infrastructure result in organizations that place centralized control as a subordinate priority to decentralized execution (i.e. mission accomplishment). The other contribution to the ad hoc nature of RED HORSE comes from the way the units are organized. While ACC is the lead command, there are significant managing stakeholders at AFCEC, Headquarters AF, AFRC, the National

Guard Bureau, PACAF, and six state governments. In addition to the organizational reporting relationships, the ad hoc character of RED HORSE organizations is manifested in training, manpower, and, until recently, TTP selection. The TTP selection process is undergoing changes to align with efforts to centralize construction prioritization and selection (RED HORSE Program office, 2013a). This process change could be an opportunity to better leverage TFI, as described below.

Suggesting that RED HORSE take on an enterprise level management approach is not meant to convey complete standardization across the RED HORSE enterprise, but rather a wider visibility of opportunities and more closely aligned priorities. One respondent's particularly poignant example of managing TTPs at the enterprise level was

> "Right now red horse squadron commanders tend to choose troop training projects on their own. In other words ACC puts together a list, the commanders look at their needs and wants, and they pick off the list, and then they go on their merry way and go do the work… Instead of trying to manage it at the squadron level, let's go more to an enterprise level of management and let the squadrons figure out how they're going to source projects. You're going to assign a lead unit and basically build either a task force or whatever you want to call them to do those projects. Now we would be attacking the Air Force's priorities. [Staffs] would be running the show versus the squadron commanders running the show from the bottom up. When you do it that way you actually get more benefit from the association piece because it's easier for those reserve and guard components to see the schedule and plug-in, and start taking benefit of some of the regional availability and other things. You cast a little bit wider net and you might be able to find savings on equipment based on the regionalization of the projects."

This enterprise view on TTPs synergizes efforts across components, but can still afford flexibility to unit commanders in how they execute the TTPs. This style of TTP management also forces longer range planning, which provides ARC units the time necessary to manage schedules with civilian employers to facilitate higher ARC participation. Longer range planning, particularly planning for multiple fiscal years,

presents more opportunity to request and advocate for MPA and RPA mandays—another enabler of higher ARC participation. Planning, civilian sector support, and manday funding were noted by eleven respondents, five respondents, and sixteen respondents, respectively, as factors supporting ARC participation.

Nine of the twenty respondents remarked that their unit had different priorities than those of their TFI teammate, and the respondents linked that divergence to receiving a disbenefit. Therefore, aligning unit-level priorities with an enterprise-focused mindset could help reduce or alleviate those disbenefits. For example, five respondents mentioned AD units had different training priorities than ARC units, and that difference resulted in missed training opportunities. It was not completely clear why the priorities were so different, but perhaps these opportunities could have been leveraged if both units had similar training priorities based on enterprise training priorities. One could argue that priorities are set at an enterprise level because the AFIs that establish what training is required and what training is SORTS reportable are authored in coordination with various enterprise stakeholders. The above situation suggests that establishing requirements at an enterprise level does not always translate into consistent prioritization of those requirements. Applying an enterprise mindset to unify priorities only works if an enterprise mindset addresses the root cause of the priority differences. Enterprise focus may be a viable solution for correcting divergent priorities caused by personality clashing between unit leaders, but may not be appropriate when component-specific requirements are the root cause of the difference in priorities. This is where future research (e.g. unit climate assessment recommendation discussed in the next section) to examine the magnitude of difference between priorities and what causes the divergence could

facilitate appropriate solutions to aligning priorities or mitigating disbenefits from priorities that cannot align.

A potential mechanism for aligning unit priorities is creating higher echelon RED HORSE organizations. Kerr (2012) proposed reorganizing the existing RED HORSE squadrons into RED HORSE groups to clarify deliberate planning of RED HORSE employment and more efficiently meet National Defense Strategy requirements. Further, the first Expeditionary RED HORSE group formerly employed in the Central Command AOR and the 622nd Civil Engineer Group within AFRC are examples of higher echelon constructs that have already been tested. Other members of the RED HORSE community, including four interview respondents, have proposed various forms of higher echelon organizations. A common theme in the respondents' recommendations was that reconfiguring into RED HORSE groups would better align unit priorities. These RED HORSE group concepts differed from Kerr's proposal and the 622nd CEG because the respondents' group concepts combined AD and ARC squadrons into a single group to align priorities across components. The shared destiny and supervisor-subordinate relationships that comes from being members of the same organization could be a powerful motivator to ensure priorities are established and executed in a consistent manner across the organization.

The four respondents posited that multi-component RED HORSE groups could potentially be an effective means to align priorities, synergize manpower and resources, and improve visibility of training opportunities across the RED HORSE enterprise, but more research is necessary to evaluate what the ideal group configuration would be and characterize the immediate, secondary, and tertiary effects from such an arrangement.

Also, potential obstacles need to be identified and addressed. A preliminary list of such obstacles includes navigating statutes and regulations (e.g. Title 10 and Title 32 authorities), adjusting manning authorizations, ensuring fairness of command opportunities, and managing geographically separated units. Again, a TFI vision tailored to the RED HORSE community could clarify expectations to include whether RED HORSE groups would enhance or detract from meeting the objectives of RED HORSE TFI initiatives.

Opportunities for Future Research

In addition to the research topics proposed to support the recommendations above, there may be other research opportunities for deeper investigation or adaptation of this research. Additional research opportunities exist for leveraging the data collected in this research. As mentioned in the limitations section of Chapter I, this analysis could be strengthened by having another researcher code the data to check for coding bias. Also, examining certain aspects of the data more closely could reveal additional insights into maximizing TFI benefits and minimizing disbenefits. For example, research could consider how the number of mandays an ARC unit executes affects TFI outcomes (e.g. how might results differ if Andersen was omitted). Alternatively, one could compare ANG units and AFR units more closely to determine if the characteristics of each component are more influential or less influential than other factors that differentiate the ARC units. Another common practice to advance a research area is to investigate one of the assumptions made in previous research. For example, this research assumed that the RED HORSE concept of operations would not change; therefore, future research could

consider the suitability of each component, as well as TFI associations, in meeting the requirements of a prospective change to the concept of operations. Establishing a baseline of FY2013 posturing was another assumption of this research, but fiscally-induced changes (e.g. force structuring) and geopolitically-induced changes (e.g. deployment tempo) could have profound effects in TFI initiatives. For example, Riche et. al (2007) concluded that deployments created common experiences that help to overcome negative cross-component stereotypes, so how might a reduction in deployments affect relationships between TFI units, and what other efforts could provide similar opportunities for teambuilding through common experiences?

Another strategy for advancing a research area is to examine a similar research question using a different methodology. This research included only twenty members whose positions give them operational and strategic level insights into TFI. An alternative that could capture a larger spectrum of opinions would be to conduct climate assessments in each TFI unit to characterize strengths and weaknesses as seen by unit members. Likert style questions designed to measure prominent outcomes, factors, and factor-outcome relationships could produce more quantitative results to target improvement strategies. The AF survey program makes conducting such a survey possible only if it is initiated by someone empowered to act upon the findings (i.e. a unit commander). Each commander would be provided with the results from their squadron to address their specific situation, but the aggregated results from all TFI units could be analyzed centrally to find solutions relevant across the enterprise or solutions that correlate well with specific situations to create a situational model. Another option would be to analyze all the quantitative data associated with each RED HORSE squadron

to determine objective measures of TFI contribution (e.g. costs, tangible impacts to readiness) and determine where further data collection could produce higher fidelity measures. Finally, interview respondents from this research also provided numerous ideas for further examination in the RED HORSE and TFI domains that can be seen in Appendix G.

Appendix A: Interview Guide

Introduction

This research is intended to identify opportunities to increase the benefits that RED HORSE organizations derive from total force integration (TFI). The purpose of these interviews is to determine the outcomes of TFI and the factors contributing to those outcomes.

Interview Protocol

Confidentiality: All interview answers will remain confidential.

Non-Attribution: All comments, remarks or suggestions will not be attributed or assigned to a specific person or persons.

Academic Freedom: Those interviewed should feel free to express their observations, views, and recommendations without regard to rank or position. At any time, you can stop the interview for any reason with no adverse affects.

Notes

Green text in all capitals is used to clarify intent of the bracketed words used in the questions listed below. Bracketed words are placeholders for other text that will be tailored to each interviewee.

Blue text is used to set apart important information that the researcher will communicate verbatim to the interviewee. This information guides the flow of the interview and provides definitions to ensure consistent understanding among interviewees. Interviewees received a copy of this guide with the blue text removed.

Questions

> BRACKETED UNIT REFERENCES BELOW WILL BE REPLACED WITH THE ACTUAL UNITS RELEVANT TO THE INTERVIEWEE

Thank you for lending your time to support my research. Your responses along with those from other interviewees will be the cornerstone of my research and will ultimately form the basis of my recommendations. For this reason I ask that you be completely candid with your responses. No information that you provide will be published in a manner that could be traced back to you, and all the data that I collect will be tightly safeguarded. Do you have any questions before we begin?

The first group of questions is designed to collect general information about yourself and your experience with RED HORSE TFI. Subsequent questions will examine outcomes and contributing factors more in depth through the eyes of three different stakeholders.

1. What RED HORSE unit(s) are/were you involved in?

2. What is/was your role in that unit(s)?

3. In each of the following areas, describe to me what [your unit] being in a TFI with [associate unit] means in terms of the interaction between the units.
    a. Inter-unit communication (who, how, and how often)

    b. Collaboration (what and how often)

    c. Perceptions [your unit] members have of [associate unit] members

    d. Perceptions [associate unit] members have of [your unit] members

Now we are going to discuss specific outcomes—which will be classified as either benefits or disbenefits—as they are experienced by various stakeholders. These outcomes may fall within a variety of areas and I encourage you to consider each of the topic areas listed on the last page of your interview guide. First, we will discuss the benefits, which I will now define.

Benefit: A good or helpful result or effect; advantage

4. How does [your unit] benefit from being in a TFI with [associate unit]?

5. How does [associate unit] benefit from being in a TFI with [your unit]?

We will now look beyond the [your unit] and [associate unit] to consider how this TFI affects the entire RED HORSE enterprise, which I will now define.

RED HORSE enterprise: The collective entity encompassing all RED HORSE units and the staff agencies supporting those units.

6. How does the RED HORSE enterprise benefit from the TFI between [your unit] and [associate unit]?

We will now look at the other side of the argument to consider the disbenefits to each of these stakeholders. Consider the following definition.

Disbenefit: The opposite of benefit; a bad or unhelpful result or effect; disadvantage; drawback.

7. What are the disbenefits to [your unit] as a result of the TFI with [associate unit]?

8. What are the disbenefits to [associate unit] as a result of the TFI with [your unit]?

9. What are the disbenefits to the RED HORSE enterprise as a result of the TFI between [your unit] and [associate unit]?

BRACKETED BENEFITS AND DISBENEFITS BELOW WILL BE REPLACED BY ANSWERS GIVEN TO QUESTIONS 4-9

Now we will revisit each of the outcomes—benefits and disbenefits—that you listed in the previous questions so that we may consider the factors that contributed to causing each outcome. Consider the following definition.

Factor: A circumstance, fact, or influence that contributes to a result or outcome.

10. Thinking about [benefit] you mentioned earlier, what are the contributing factors?

11. Thinking about [disbenefit] you mentioned earlier, what are the contributing factors?

The next three questions pertain to your opinions regarding your experience with TFI and what could be done in the future to improve RED HORSE TFI.

12. Would you consider the TFI between [your unit] and [associate unit] successful? Why or why not? (What is your definition/measure of success?)

13. How would you modify TFI so that [your unit], [associate unit], and the RED HORSE enterprise could receive more benefit and less disbenefit?

14. What else should I be asking? Are the questions I've been asking getting at the most important aspects of this issue?

This concludes the interview. Thank you for taking this time out of your busy schedule to support my research. If you don't mind I may contact you in the near future with a short follow up question depending on the responses I get to the last question (#14). If you have any further questions or comments please feel free to contact me any time.

Topic areas to consider: outcomes

Home station manpower

Deployment augmentation

Logistics

Facilities

Equipment

Vehicles

Materials

Special capabilities

Readiness and compliance inspections

Troop training projects

Contingency skills training

Field training

Vehicle and equipment training

Operations tempo

Personnel tempo

Finances

Interoperability

Administration

Professional development

Morale

Good order and discipline

Recruitment and retention

Appendix B: IRB Exemption Letter

DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OHIO

06 November 2013

MEMORANDUM FOR LT COL TAY W. JOHANNES

FROM: Joseph B. Skipper, Lt Col, Ph.D.
AFIT IRB Research Reviewer
2950 Hobson Way
Wright-Patterson AFB, OH 45433-7765

SUBJECT: Approval for exemption request from human experimentation requirements (32 CFR 219, DoDD 3216.2 and AFI 40-402) for "Analysis of Total Force Integration in RED HORSE Organizations."

1. Your request was based on the Code of Federal Regulations, title 32, part 219, section 101, paragraph (b) (2) Research activities that involve the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior unless: (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) Any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

2. Your study qualifies for this exemption because you are not collecting sensitive data, which could reasonably damage the subjects' financial standing, employability, or reputation. Further, the demographic data you are collecting cannot realistically be expected to map a given response to a specific subject. Your plan includes ample and appropriate measures to safeguard any information collected and your mitigation plan should such breech occur is adequate.

3. This determination pertains only to the Federal, Department of Defense, and Air Force regulations that govern the use of human subjects in research. Further, if a subject's future response reasonably places them at risk of criminal or civil liability or is damaging to their financial standing, employability, or reputation, you are required to file an adverse event report with this office immediately.

JOSEPH B. SKIPPER, Lt Col, Ph.D.
AFIT Research Reviewer

Appendix C: Consent Form

Consent Form to participate in interviews supporting An Analysis of Total Force Integration in RED HORSE Organizations

I am a graduate student at the Air Force Institute of Technology (AFIT), and I am conducting interviews for my thesis research. I am studying the outcomes of total force integration (TFI) in RED HORSE organizations and the factors that contribute to those outcomes. The purpose of this research is to provide recommendations for improving the outcomes associated with TFI.

During this study, you will be asked to answer some questions about TFI outcomes and the factors contributing to those outcomes from the perspective of your unit, your associated unit, and the larger RED HORSE community. This interview was designed to be approximately forty-five to sixty minutes in length; however, please feel free to expand on the topic or talk about related ideas. Also, if there are any questions you would rather not answer or that you do not feel comfortable answering, please say so and we will stop the interview or move on to the next question, whichever you prefer.

The interview will be audio recorded and transcribed for further analysis. All the information you provide will be kept confidential. Responses will be published only in an aggregated form so that no response will be traceable to an individual interviewee. No personally identifying information will be kept with your responses, and I will keep all data in a secure place. Only my thesis advisor, Lt Col Tay Johannes, and I will have access to this information. Upon transcription the audio recording will be destroyed. Upon completion of the thesis, all data will be destroyed or stored in a secure location.

Participant's Agreement:

I am aware that my participation in this interview is voluntary. I understand the intent and purpose of this research. If, for any reason, at any time, I wish to stop the interview, I may do so without any penalty and without having to give an explanation.

I understand that I will not be compensated financially or otherwise for my participation. I am aware the data will be used in a master’s thesis that will be publicly available online at www.dtic.mil. The data gathered in this study are confidential with respect to my personal identity unless I specify otherwise.

If I have any questions about this study, I am free to contact the student researcher (Capt Grant Bloom, grant.bloom@us.af.mil, 937-255-3636) or the faculty adviser (Lt Col Tay Johannes, tay.johannes@afit.edu, 937-255-5654 ext 3556).

I have been offered a copy of this consent form that I may keep for my own reference.

I have read the above form and, with the understanding that I can withdraw at any time and for whatever reason, I consent to participate in the interview.

_____ _____

Participant's signature Date

_____

Interviewer's signature

Appendix D: Complete Code List

Number of occurrences for each code is shown in parentheses

Additional research
Cost effectiveness of ARC (1)
Effect of TFI documents (1)
How related are AFSCs & civilian jobs (1)
How well are we meeting intent of TFI (1)
Implications of MAJCOM change (1)
Leadership/direction of RED HORSE program (2)
Metrics to quantify TFI contribution (1)
Need for RED HORSE in ARC (1)
RED HORSE TFI or Prime BEEF augmentation (1)
Role of MAJCOM support to TFI (1)
TFI implications for AD, AFRC, and ANG (1)
TFI or just MOA (2)
Understand implications of additive TFI with no unified control (1)
Unit climate assessment of TFI (1)
What to merge and what to keep separate (1)

Assessments
TFI moderately successful (4)
TFI successful (14)
TFI unsuccessful (3)
Magnitude – insignificant (8)
Magnitude – significant (7)

Benefits
Benefit to AD unit (55)
Benefit to ARC unit (60)
Benefit to enterprise (23)
Ability to work with other units (14)
Able to meet required number of squadron equivalents (2)
Access to expertise (52)
Access to facilities (24)
Access to more robust logistics (9)
Access to vehicles/equipment (34)
Additional source of resources (9)
Administrative help (7)
Better trained craftsmen (11)
Careerfield professional development (6)
Continuity (20)
Cost savings from shared resources (14)
Covering manpower shortfalls (46)
Crossflow/assistance to execute staff guidance (2)
Deployment augmentation (21)
Enhanced morale (5)
Federal resources for state mission (4)
Good remuneration (5)
Inspections/exercises (10)
Interoperability (7)
Manpower/logistics synergy (14)
Networking (4)
Offering training opportunities (12)
Opportunity to hone leadership skills (5)
Pre-existing teams (12)
Re-blueing effect (5)
Recruiting AD members (7)
Recruiting from attractive situation (4)
Reduced Ops/Perstempo (3)
Special Capabilities Training (25)
Template/proof of concept (5)
Training synergy (6)
Troop training projects (21)
Vague mention of overall benefits (16)
Vehicle Maintenance (9)

Collaboration
AFSC skill training (14)
Deployments (6)
Homestation training (8)
Inspections/Exercises (13)
Outside work (6)
Troop Training Projects (16)

Communication
Constant interaction (7)
Copied on emails (2)
Event driven (25)
Routine meetings (18)

Disbenefits
Disbenefit to AD unit (32)
Disbenefit to ARC unit (27)
Disbenefit to enterprise (15)
AD make big decisions (1)
Constraints to using ARC (22)
Duplication of resources (2)
Hassle to accommodate other unit (21)
Inability to adapt (3)
Inability to work taskings together (25)
Insufficient logistics (3)
Leadership/management challenge (43)
Limited COCOM missions (1)
Lost training when equipment/vehicles unavailable (13)
Missed opportunity to gain benefits (14)
Overcrowding the compound (4)
Overstating capabilities (9)
Perceived as less of a squadron (9)
Reinventing the TFI wheel (7)
Risk from interdependencies (6)
TFI-induced burden on resources (14)
Under-resourced because TFI relationship (5)
Vague mention of overall disbenefits (10)

Definition of Success
Achieving common goals / mission accomplished (14)
Better trained organizations (3)
Cohesiveness between units (10)
Covering manpower gaps (2)
Interoperability (1)
Making better use of resources (3)
Successful deployments (9)
Successful inspections (6)

Factors
AD budget larger than ARC (9)
AD has old/inadequate facilities (1)
Adaptive application of unique ARC member skills (18)
Additive TFI to make composite 404 (24)
Administrative red tape (5)
Ancillary burden on ARC time (10)
ARC force structure (6)
ARC longevity/stability (17)
ARC reliance on AD-owned assets (20)
ARC schedule (21)
Assumed greater space sharing (2)
Both units weak in same area (3)
Buy in – lacking (12)
Buy in – sufficient (10)
Co-location (30)
Common goals (10)
Comparable capability between components (4)
Competence from working everyday in craft (19)
Constraints from civilian employment (6)
Cooperation – lacking (13)
Cooperation – positive (32)
Deployed in place (6)
Different dwell rates (19)
Different IT systems (4)
Different MAJCOM than host (3)
Different priorities (19)
Differing organizational culture (22)
Difficulty recruiting in local area (1)
Disjointed C2 structure (1)
Disparate capability between components (6)
Drawdown of deployments (1)
Few echelons of command (2)
Formalized agreements (3)
Frequent AD rotation (22)
Funding – lacking (23)
Funding – sufficient (8)
Good rapport (38)
Informal agreements (4)

Factors (continued)

Insufficient analysis (4)
Insufficient cross-component staff interaction (1)
Insufficient mandays (10)
Integrated facilities (7)
Invading my space mentality (6)
Lack of collaboration (3)
Lack of communication (7)
Local connections (7)
Logical UTC organization (1)
Long time working together (2)
Low remuneration for ARC CC positions (1)
Many echelons of command (2)
Negative stereotypes (8)
New/unskilled members (15)
Obstacle higher up chain of command (7)
Perceived lower ARC competence (10)
Personality differences between leadership (12)
Planning – insufficient (12)
Planning – sufficient (7)
Political pressure to do TFI (2)
Programming incentive to use associate (3)
PRTC (19)
RED HORSE culture (1)
Separate compounds (1)
Shared compound
SORTS requirements
Strong military network
Support from civilian sector
Support from functional staff
Title 10 vs. Title 32 obstacle
Trust - lacking
Trust - sufficient
Unclear/missing guidance from higher headquarters
Undervaluing associate unit
Unfamiliar with associate unit
Working together frequently

Improvements

Additive TFI model as standard
Address readiness reporting implications of additive TFI
ARC as Special Capabilities specialists
ARC unit works for AD
Better ARC advocacy in big decisions
Better packaging to better portray capability
Better staff level coordination of TTPs
Better staff level synchronizing resources
Better understanding/familiarity across community
Bring unit leaders together to develop expectations before initiating TFI
Build up ARC capability so they can deploy
Carve out TTP money to facilitate planning
Create standard RED HORSE TFI model
Dialog of each component's needs & way ahead
Enterprise-level perspective
Equal leadership opportunities between components
Force collaboration
Funding specifically for TFI
Get ARC members to do CBTs outside drill time
Involve ARC in deployments to maintain viability
Make I-Plans/MOUs more specific
Metrics focused on training vs. cost
More emphasis on planning
Only have TFI where units are collocated
Paradigm shift -- training, not production mission
Prioritizing use of equipment
Propagating best practices
Provide funding to cover TFI-induced burden

Improvements (continued)

Provide mandays/funding to keep ARC proficiency up
RED HORSE wing/groups
Reduce administrative layers
Reduce ARC recurring CBT requirements
Require closer civilian job - AFSC link
Solid line relationships
Staff guidance that is more clear
Submit joint training plan to ACC
Sync deployments
TFI considered when making cuts

Observations

AD enlisted stay RED HORSE too long
ANG units are better than AFRC units
ARC should not work for AD
Crop of ARC CCs not as strong as AD
Difficulties with active associate units
Ensure RED HORSE tasked for appropriate mission
Fear of breaking equipment
Flying vs. combat support
Focus TTPs on RED HORSE core competencies
Forced marriage
Greater focus on COCOM missions
Gridlock at RH panel
Hire leaders with RED HORSE background
I-Plan goals aren't relevant
Intent of TFI
Internal struggle to get buy in
Involved at/near birth of TFI
Looking for document to resolve dispute
Never been joint inspected
Non-model TFIs not a good concept
Not owning equipment is not an obstacle
Positive progress
Positive support from 622 CEG
Reserves lack of equipment is a foul
Reserves not good for perishable skills
Significant support comes from the base
Special capabilities responsibilities
Speculation based on experience
Success is personality dependent
TFI just makes sense
Think their TFI is best one
Traditional ARC members from wide area
Train with equipment you deploy with
Turnover creates instability in TFI
Uncertainty in manpower standard
Use RED HORSE for more projects to keep training high

Appendix E: Factor Links to Outcomes

Notes: All factors that were linked with an outcome are listed alphabetically flush with the left margin. The outcomes associated with each factor are indented and are annotated as either benefits or disbenefits.

AD budget larger than ARC
- Benefit: Offering training opportunities

Adaptive application of unique ARC member skills
- Benefit: Access to expertise

Additive TFI to make composite 404
- Benefit: Covering manpower shortfalls
- Disbenefit: Insufficient logistics
- Disbenefit: Perceived as less of a squadron

Administrative red tape
- Disbenefit: Leadership/management challenge

Ancillary burden on ARC time
- Disbenefit: Missed opportunity to gain benefits
- Disbenefit: Overstating capabilities

ARC force structure
- Disbenefit: Leadership/management challenge

ARC longevity/stability
- Benefit: Continuity
- Disbenefit: Inability to adapt

ARC reliance on AD-owned assets
- Disbenefit: Lost training when equipment/vehicles unavailable

ARC schedule
- Disbenefit: Constraints to using ARC
- Disbenefit: Hassle to accommodate other unit
- Disbenefit: Missed opportunity to gain benefits

Assumed greater space sharing
- Disbenefit: Overcrowding the compound

Both units weak in same area
- Disbenefit: Insufficient logistics

Buy in - lacking
- Disbenefit: Vague mention of overall disbenefits

Buy in - sufficient
- Benefit: Vague mention of overall benefits

Co-location
- Benefit: Access to facilities
- Benefit: Access to vehicles/equipment
- Benefit: Cost savings from shared resources
- Benefit: Offering training opportunities
- Benefit: Re-blueing effect
- Benefit: Special Capabilities Training

Comparable capability between components
- Benefit: Interoperability

Competence from working everyday in craft
- Benefit: Access to expertise

Constraints from civilian employment
- Disbenefit: Constraints to using ARC

Cooperation - lacking
- Disbenefit: Inability to work taskings together
- Disbenefit: Vague mention of overall disbenefits

Cooperation - positive
- Benefit: Training synergy
- Benefit: Vague mention of overall benefits

Deployed in place
- Disbenefit: Limited COCOM missions
- Disbenefit: Overstating capabilities

Different dwell rates
- Disbenefit: Constraints to using ARC
- Disbenefit: Inability to work taskings together
- Disbenefit: Risk from interdependencies

Different MAJCOM than host
- Disbenefit: Overcrowding the compound

Different priorities
- Disbenefit: Inability to adapt
- Disbenefit: Lost training when equipment/vehicles unavailable
- Disbenefit: Vague mention of overall disbenefits

Differing organizational culture
- Disbenefit: Hassle to accommodate other unit
- Disbenefit: Inability to adapt
- Disbenefit: Leadership/management challenge

Disjointed C2 structure
- Disbenefit: Leadership/management challenge

Disparate capability between components
- Disbenefit: Leadership/management challenge
- Disbenefit: Overstating capabilities

Few echelons of command
- Benefit: Vague mention of overall benefits

Formalized agreements
- Benefit: Federal resources for state mission

Frequent AD rotation
- Benefit: Continuity
- Disbenefit: Reinventing the TFI wheel

Funding - lacking
- Disbenefit: Vague mention of overall disbenefits

Funding - sufficient
- Benefit: Covering manpower shortfalls
- Benefit: Vague mention of overall benefits

Good rapport
- Benefit: Enhanced morale
- Benefit: Recruiting AD members
- Benefit: Training synergy
- Benefit: Vague mention of overall benefits

Insufficient analysis
- Disbenefit: Overstating capabilities
- Disbenefit: Risk from interdependencies

Insufficient mandays
- Disbenefit: Constraints to using ARC
- Disbenefit: Inability to work taskings together
- Disbenefit: Vague mention of overall disbenefits

Invading my space mentality
- Disbenefit: TFI-induced burden on resources

Local connections
- Benefit: Access to facilities
- Benefit: Networking

Logical UTC organization
- Benefit: Ability to work with other units

Negative stereotypes
- Disbenefit: Leadership/management challenge

Obstacle higher up chain of command
- Disbenefit: Vague mention of overall disbenefits

Personality differences between leadership
- Disbenefit: Leadership/management challenge

Planning - insufficient
- Disbenefit: Constraints to using ARC
- Disbenefit: Vague mention of overall disbenefits

Planning - sufficient
    Benefit: Vague mention of overall benefits

Programming incentive to use associate
    Benefit: Covering manpower shortfalls

PRTC
    Benefit: covering manpower shortfalls
    Disbenefit: Limited COCOM missions
    Benefit: good remuneration

Shared compound
    Benefit: Access to facilities

SORTS requirements
    Disbenefit: overstating capabilities

Support from civilian sector
    Benefit: enhanced morale
    Benefit: offering training opportunities
    Benefit: good remuneration

Title 10 vs. Title 32 obstacle
    Disbenefit: leadership/management challenge

Trust - lacking
    Disbenefit: Missed opportunity to gain benefits

Trust - sufficient
    Benefit: Administrative help
    Benefit: Vague mention of overall benefits

Unclear/missing guidance from higher headquarters
    Disbenefit: leadership/management challenge

Unfamiliar with associate unit
    Disbenefit: Missed opportunity to gain benefits

Appendix F: Improvement Link Hierarchy

Notes: Improvements are intended to either amplify or mitigate factors, but an improvement may also require the presence of a factor. Descriptors in parentheses describe the nature of the link between improvement and factor. Factors cause outcomes that are either benefits or disbenefits, which are indicated by a B or D, respectively, before the code name. Occurrences refer to the number of respondents who made the suggestion.

Improvement: Additive TFI model as standard

Occurrences: 3

Example: "I really think as we look at that we need to look at the TFIs to economize our active-duty resources as well and that goes back to the model of one third - two thirds or some breakout of that. Having the active-duty component with whatever the reserve component is helps to give us that benefit."

Example: "The unofficial stance is we have never been able to take a 404 person red horse squadron and get 404 people out the door on the active-duty. The best we normally can do is about 280 to 300, so you need that 200 person ARC unit who can probably get out about 120 to actually put a 400 person red horse squadron out the door. So you need 600 to put 400 out the door. You can't really say that, even though it's true."

Factor: (mitigates) Funding – Lacking

Outcome: D – Vague mention of overall disbenefits

Factor: (requires) Additive TFI to make composite 404

Outcome: B – Covering manpower shortfalls

Outcome: D – Perceived as less of a squadron

Improvement: Address readiness reporting implications of additive TFI

Occurrences: 2

Example: "I don't know that the war planners are considering the other units when you look at us getting backfilled by our TFI associate unit. That is a contributing factor to the disbenefit of TFI because they are not looking at that when you look at day-to-day operations and look at in Garrison operations the manpower numbers look good but when you start talking about deployments and the real world mission requirements now it is misrepresented."

Factor: (amplifies) Additive TFI to make composite 404

Outcome: B – Covering manpower shortfalls

Outcome: D – Perceived as less of a squadron

Factor: (mitigates) SORTS requirements

Outcome: D - Overstating capabilities

Improvement: ARC as Special Capabilities specialists

Occurrences: 1

Example: "Special capabilities, I like the guard and reserve for that because they can train on it and they can maintain their skills. We PCS people so frequently in and out and we send them back to prime beef units to where you constantly have to train people in special capabilities. Some of those are an art… so in that regards I like the guard and reserve because they can be specialists. I think active-duty guys need to be more generalists."

Factor: (amplifies) ARC longevity/stability

Outcome: B – Continuity

Outcome: D – Inability to adapt

Factor: (mitigates) Frequent AD rotation

Outcome: D – Reinventing the TFI wheel

Improvement: ARC unit works for AD

Occurrences: 5

Example: "I think sometimes the two full bird colonels kinda bumped heads and that was… counterproductive. If I could change something I'd rather see a Lt Col or a major… deputy commander ART which is civil service and then a reservist on the weekend. I think if the active-duty commander has a say on who he picks for that I think the trust [will be there]. The active-duty commander will know who the person is and I think they will work well together. Also when the active-duty commander deploys there is always a deputy there who is also the reserve commander so that there is continuity. The deputy commander knows what the active-duty commander's goals are and what he wants to do with the squadron. I'd like to see that. I think that would avoid a lot of the Col to Col bumping heads type thing. The deputy civil service during the week he or she would be a civil service deputy to the active-duty and on reserve weekends he would be the commander of the reserve unit."

Example: "Quite honestly what I would do, and it may irk some of the units that are running well, but the command structure. You need to formalize the command relationships to where the larger of the units is truly the commander… If the command relationship was such that the [ARC] commander worked for or reported to the [AD] commander then that commander could be more directives and make sure that entire package would be more capable. But that didn't happen. When you have completely distinct chains of command not focused on the same priorities then you are going to have what happened in [unsuccessful TFI]."

Factor: (amplifies) Common goals

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Disjointed C2 Structure

Outcome: D – Leadership/management challenge

Factor: (mitigates) Personality differences between leadership

Outcome: D – Leadership/management challenge

Improvement: Better ARC advocacy in big decisions

Improvement: Better ARC advocacy in big decisions

Occurrences: 1

Example: "From the enterprise side is that the active-duty drives a lot of the big picture changes. They drive how we are going to be inspected. They drive how units are going to be deployed. They drive how special capabilities are going to be done. They are the driving force, and the disbenefit is because the guard is not always as fully included in that as we probably should be. I don't think there is as much communication and correspondence between the A7X at ACC and the A7X at ANG as there should be. I don't think there is enough crossflow between those two because active-duty does make the rules. We work within those rules and if we don't like them we find a different way to do it."

Factor: (mitigates) ARC reliance on AD-owned assets

Outcome: D – Lost training when equipment/vehicles unavailable

Factor: (mitigates) different priorities

Outcome: D – Lost training when equipment/vehicles unavailable

Outcome: D – Inability to adapt

Outcome: D – Vague mention of overall disbenefits

Improvement: Better packaging to better portray capability

Occurrences: 1

Example: "We are also struggling with what does it mean, what does a red horse squadron mean… Really it can be anything from 75 people up to 500 or 600. It depends on how big the region is and how much work there is… If we can get the configuration control you can see where it would actually make associations stronger, because now you are training that organization for its portion of the RED HORSE mission. You can focus on that versus basically right now we're focusing on skill training."

Factor: (amplifies) Logical UTC organization

Outcome: B – Ability to work with other units

Improvement: Better staff level coordination of TTPs

Occurrences: 2

Example: "Instead of trying to manage it at the squadron level, let's go more to an enterprise level of management and let the squadrons figure out how they're going to source projects. You're going to assign a lead unit and basically build either a task force or whatever you want to call them to do those projects. Now we would be attacking the Air Force's priorities. [Staffs] would be running the show versus the squadron commanders running the show from the bottom up. When you do it that way you actually get more benefit from the Association piece because it's easier for those reserve and guard components to see the schedule and plug-in, and start taking benefit of some of the regional availability and other things. You cast a little bit wider net and you might be able to find savings on equipment based on the regionalization of the projects."

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Support from functional staff

Factor: (mitigates) Funding – lacking

Outcome: D – Vague mention of overall disbenefits

Factor: (mitigates) Insufficient cross-component staff interaction

Improvement: Better staff level synchronizing resources

Occurrences: 2

Example: "I think that if AFRC and ACC would look a little bit closer at the funding then I think at the headquarters level they would come together better. I think that the money could maybe be spent smarter, or there may be more opportunities at the squadron level to do more things because right now I don't think we have a lot of talk going between the MAJCOMs as far as the possibilities for TFI units.

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Support from functional staff

Factor: (mitigates) Funding – lacking

Outcome: D – Vague mention of overall disbenefits

Improvement: Better understanding/familiarity across community

Occurrences: 1

Example: "we weren't exposed to these other guys and [when we deployed together] I don't think that blended. When we come home with the [host unit] we don't have that issue… I think if other units can have that working relationship I think it just betters their overall mission. It just helps out. When we used to deploy for the DFT or TTPs projects the guys out there don't take us serious."

Factor: (amplifies) Working together frequently

Factor: (mitigates) Unfamiliar with associate unit

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Undervaluing associate unit

Factor: (mitigates) Differing organizational culture

Outcome: D – Hassle to accommodate other unit

Outcome: D – Inability to adapt

Outcome: D – Leadership/management challenge

Factor: (mitigates) Different priorities

Outcome: D – Lost training when equipment/vehicles unavailable

Outcome: D – Inability to adapt

Outcome: D – Vague mention of overall disbenefits

Improvement: Bring unit leaders together to develop expectations before initiating TFI

Occurrences: 1

Example: "When the TFI is announced between the two units, invite the key leaders from both squadrons to a meeting area, away from the squadrons, to plan out the association before boots on the ground. The expectations will have been established before becoming on-line and the transition will be more productive and less counterproductive because neither squadron knows what to do."

Factor: (amplifies) Shared compound

Outcome: B – Access to facilities

Factor: (mitigates) Unclear/missing guidance from higher headquarters

Outcome: D – Leadership/management challenge

Improvement: Build up ARC capability so they can deploy

Occurrences: 1

Example: "From what I understand that was part of the TFI initiative was to try to help with the ops tempo on active duty side by being able to have some folks who could deploy at the same time so we would have to deployed as many active… Until we can get to the point of the reserves have all their people and have all their people trained to the point where the reserve [command] is willing to commit them to that same time frame so they can deploy so many people and we can deploy so many people together to make up the total number. We're not there yet."

Factor: (mitigates) Perceived lower ARC competence

Improvement: Carve out TTP money to facilitate planning

Occurrences: 1

Example: "unless we could definitively set aside money for red horse to do projects during set times without this fluctuation of CR and all these other things, then and only then could you really sit down with the [ARC] and say okay we are doing this TTP during this time and these are the skill sets that we're training. do you have folks who can do this and do more joint or more collaboration in that regard… If they're looking at the IPL process and construction projects not just this year for FY 14 but also FY 15 and 16 if those projects get locked in earlier then that will help collaboration down the road."

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Cooperation – positive

Outcome: B – Training synergy

Outcome: B – Vague mention of overall benefits

Improvement: Create standard RED HORSE TFI model

Occurrences: 1

Example: "most people's mentality is you give them a picture of what you want to take place then they can put in their mind what needs to be there. Basically it's setting that carrot out in front of them or setting goals in front of them. This is where you need to be at officially. This is what you need to be able to do in order to make this work… I think the problem is if you put the model together then somebody's gonna have to cough up the funding to make it happen and I think that's the biggest reason why nobody's willing to put this model together from the upper leadership. TFI in my opinion is working to a small degree of what it can do."

Factor: (amplifies) Formalized agreements

Outcome: B – Federal resources for state mission (ANG only)

Factor: (amplifies) Common goals

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Unclear/missing guidance from higher headquarters

Outcome: D – Leadership/management challenge

Improvement: Dialog of each component's needs & way ahead

Occurrences: 1

Example: "One thing I would ask is from the each component side of the house what they feel and how they're going to be successful now with all the constraints going on right now. How are they going to be successful?"

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Unfamiliar with associate unit

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Differing organizational culture

Outcome: D – Hassle to accommodate other unit

Outcome: D – Inability to adapt

Outcome: D – Leadership/management challenge

Factor: (mitigates) Different priorities

Outcome: D – Lost training when equipment/vehicles unavailable

Outcome: D – Inability to adapt

Outcome: D – Vague mention of overall disbenefits

Improvement: Enterprise-level perspective

Occurrences: 4

Example: "if I have an enterprise-level set of projects that had visibility and I knew where I was going to plug into and I could schedule people in and I could look at my training requirements and say 'I'm going to send these folks to work with the 823rd on this project, and these are going to go over and work with the 819th on this project, and we are going to work with the 200th in the guard on this project, because those are the skills I need training on.' And if we can match up all those schedules, now we can actually be giving the right airmen the right training in the right timeframe."

Factor: (amplifies) Support from functional staff

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Different priorities

Outcome: D – Lost training when equipment/vehicles unavailable

Outcome: D – Inability to adapt

Outcome: D – Vague mention of overall disbenefits

Improvement: Equal leadership opportunities between components

Occurrences: 1

Example: "When they deploy they rarely will put an reserve officer in charge for that. We try to push back. We will send chiefs and send majors over there as well. I think that needs to be looked at harder. That's been a reserve command complaint for several years. 'Send us your Indians, we don't want any of your Chiefs' type of deal. That goes up and down depending on the requirements and the shortfalls of the mission."

Factor: (mitigates) Trust – lacking

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Undervaluing associate unit

Factor: (mitigates) Perceived lower ARC competence

Improvement: Force collaboration

Occurrences: 3

Example: "I would spend the money to exercise the units together… If we are banking on the fact that we are going to have TFI units go to war, then I would force the units to train together, and to work together, and to build some projects together. Right now we don't do that… It's painful and there's a lot of personality mashing and a lot of coordination required, but I would force that upon them… I think proving that we are or that the red horse enterprise is a TFI enterprise and practicing it reinforces that."

Factor: (mitigates) Insufficient analysis

Outcome: D – Overstating capabilities

Outcome: D – Risk from interdependencies

Factor: (mitigates) Buy in – lacking

Outcome: D – Vague mention of overall disbenefits

Factor: (mitigates) Unfamiliar with associate unit

Outcome: D – Missed opportunity to gain benefits

Factor: (requires) Funding – sufficient

Outcome: B – Covering manpower shortfalls

Outcome: B – Vague mention of overall benefits

Improvement: Funding specifically for TFI

Occurrences: 5

Example: "The resourcing of actual TFI training activities. So that way we are not scrambling and the active-duty is not scrambling to figure out how we're going to do a TFI. Training events bring a lot to the interaction and understanding. The best training, the best thing we can do is when we go do things with the active duty. It's not sitting and doing e-mails or seeing a few things at a Christmas party. It's going and understanding and seeing each other's strengths and weaknesses."

Factor: (amplifies) Working together frequently

Factor: (amplifies) Funding – sufficient

Outcome: B – Covering manpower shortfalls

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Insufficient analysis

Outcome: D – Overstating capabilities

Outcome: D – Risk from interdependencies

Improvement: Get ARC members to do CBTs outside drill time

Occurrences: 1

Example: "If they could do [CBTs] at home then on the weekends they could just focus on their career field. I think that would be a big advantage to them, but I don't know if they can dictate for you if you're not on the clock for the weekend to make you do homework. I got the feeling that they can do it, but a lot of them don't and you can't force them to do it so think that's an issue too."

Factor: (mitigates) Ancillary burden on ARC time

Outcome: D – Missed opportunity to gain benefits

Outcome: D – Overstating capabilities

Factor: (mitigates) ARC schedule

Outcome: D – Constraints to using ARC

Outcome: D – Hassle to accommodate other unit

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Perceived lower ARC competence

Improvement: Involve ARC in deployments to maintain viability

Occurrences: 1

Example: "From the TFI perspective I want to make sure—and this may go back to bigger levels—that to continue TFI we have to make sure that the [ARC] continues to be included in deployment activities… if we start getting to where just the active-duty is going and they throw a handful of [ARC] members we are going to get back into a scenario where we don't know what the [ARC] can do and we are not going to use them. I know there are some financial and fiscal things that go with that, but if I could modify I would make sure the [ARC] units stay engaged on deployment rotations or at least have an opportunity… Fiscally it doesn't make sense because the active members can already fill it and they already get paid, but from the TFI standpoint I think that we need to keep that interaction and understanding."

Factor: (amplifies) ARC longevity/stability

Outcome: B – Continuity

Outcome: D – Inability to adapt

Factor: (mitigates) Perceived lower ARC competence

Factor: (mitigates) Undervaluing associate unit

Factor: (requires) Support from civilian sector

Improvement: Make I-Plans/MOUs more specific

Occurrences: 1

Example: "an I- plan should have more specific actions you might say. It was real general and I think the MOU was supposed to streamline that and make it more detailed but I think the MOU that we were working with was right out of the I-Plan, which was vague. Sometimes when we ran into issues, especially when we first got here, some of the resistance, and [we] didn't have recourse, and the I-plan or MOU was too vague to settle it."

Factor: (amplifies) Formalized agreements

Outcome: B – Federal resources for state mission (ANG only)

Factor: (mitigates) Unclear/missing guidance from higher headquarters

Outcome: D – Leadership/management challenge

Factor: (mitigates) Personality differences between leadership

Outcome: D – Leadership/management challenge

Improvement: Metrics focused on training vs cost

Occurrences: 1

Example: "you've got to go back and look at 'Are we improving training for a lower cost?' so when I'm looking at a SORTS, ART, DRRS type objective I'm saying 'does the TFI allow me to meet this for the combined organization in a more efficient and lower cost?'"

Factor: (amplifies) Common goals

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Political pressure to do TFI

Factor: (mitigates) Funding – Lacking

Outcome: D – Vague mention of overall disbenefits

Improvement: More emphasis on planning

Occurrences: 4

Example: "Scheduling is the biggest issue. It's just planning and scheduling. It's all there, just people don't take advantage of it because they just don't have the mechanisms in place… just having a better training plan for each organization and then doing a scheduling meeting between the training plans would be huge. It's just hard to get that stuff in place consistently when personalities are involved sometimes, but once you force them together and you make them start to work then it just becomes routine and it will be better."

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Improvement: Only have TFI where units are collocated

Occurrences: 1

Example: "I would also make them in close proximity. It makes no sense to have the TFI relationship with the unit that is 12,000 miles away. It only looks good on paper."

Factor: (mitigates) Unfamiliar with associate unit

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Lack of collaboration

Factor: (requires) Co-location

Outcome: B – Cost savings from shared resources

Outcome: B – Re-bluing effect

Outcome: B – Access to facilities

Outcome: B – Access to vehicles/equipment

Outcome: B – Special capabilities training

Outcome: B – Offering training opportunities

Improvement: Paradigm shift -- training, not production mission

Occurrences: 1

Example: "[readiness reporting] is where they are struggling with having these as TFIs, because when you're on the aircraft side of the house the associations increase production and they're production oriented organizations. It's all sortie generation. It's all about launching more sorties with that tail. It's really tough to do that for RED HORSE because we are primarily a training organization, not a production organization. Even the active-duty units aren't production organizations, they're training… So when you're looking at it that way the traditional TFI to increase production, it doesn't fit… the increased production is just a side benefit."

Factor: (mitigates) Unclear/missing guidance from higher headquarters

Outcome: D – Leadership/management challenge

Improvement: Prioritizing use of equipment

Occurrences: 1

Example: "That's a tough one for us here… who has priority for that equipment? Because I could get royally screwed if I have a project coming and the [AD unit] says 'well we are going to take all the graders.' A lot of my projects don't come with O&M so I can't go rent one. Maybe from a bigger level [examine] how equipment works in some of the TFI units."

Factor: (mitigates) Different priorities

Outcome: D – Lost training when equipment/vehicles unavailable

Outcome: D – Inability to adapt

Outcome: D – Vague mention of overall disbenefits

Factor: (mitigates) ARC reliance on AD-owned assets

Outcome: D – Lost training when equipment/vehicles unavailable

Improvement: Propagating best practices

Occurrences: 2

Example: "I think I would like to have a better understanding of how the flying community makes it a success if it is a success in the area and how we can incorporate that into us… I think that's an education that we need to benchmark a little bit better what we have."

Factor: (amplifies) Cooperation – positive

Outcome: B – Training synergy

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Support from functional staff

Factor: (amplifies) Strong military network

Improvement: Provide funding to cover TFI-induced burden

Occurrences: 2

Example: "there is active-duty money that is being used to support the [ARC] and active duty manpower that isn't necessarily identified in a certain EEIC or accounting code. They don't earn manpower or even identify manpower for those TFIs, which I think would make it more palatable for the leadership to support them if they knew that X dollars and Y manpower was identified for support of the TFI… Even if we carved it out of their existing manpower and budget and just moved it around and recolored it I think it would be a lot more palatable. Even if it was no extra money but it was just earmarked differently there would be a positive mental effect."

Factor: (amplifies) Support from functional staff

Factor: (amplifies) Funding – sufficient

Outcome: B – Covering manpower shortfalls

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Insufficient cross-component staff interaction

Improvement: Provide mandays/funding to keep ARC proficiency up

Occurrences: 1

Example: "I was talking to a friend of mine who's an Army guard helicopter pilot, and he has to fly like once a week to maintain his proficiency. You don't have a guy out there digging a ditch once a week to maintain his proficiency. That's a silly example there but it goes towards that trust… Maybe we need to strengthen the TFI that way to build that trust… You spend a little money, which is not as much as full-time, to provide that more frequent contact and maintain proficiency and build your trust… maybe we need to do that and build that trust to overcome the cultural inertia."

Factor: (amplifies) Comparable capability between components

Outcome: B - Interoperability

Factor: (mitigates) New/unskilled members

Factor: (mitigates) Perceived lower ARC competence

Improvement: RED HORSE wing/groups

Occurrences: 4

Example: "One of the other initiatives that we were really trying to push hard was establishing red horse groups where the different TFI units and units from all of the components reported to… One of the ideas that was thrown out is to have four distinct red horse groups established in CONUS geographically. So you would have a Northwest unit led by the 819th, a Southwest unit led by the 820th, a Southeast unit led by the 823rd, and a Northeast unit that is led by either the 200th or the 201st. One of the guard units. Have that established and have all the reporting go through those groups. That's one way, then you could really synergize the priorities… right now all you have is a bunch of units out there setting their own priorities… So you establish command relationships that go from the single point whether that be the ACC civil engineer or whoever down to subordinate units who then are responsible for the training and equipping and organizing of the squadrons. You will have a much better result in my opinion…There is a unit out at Beale that just stood up. there's no reason it should be staying out on its own. It should be reporting to higher headquarters.

Factor: (amplifies) Common goals

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Personality differences between leadership

Outcome: D – Leadership/management challenge

Factor: (mitigates) Disjointed C2 structure

Outcome: D – Leadership/management challenge

Improvement: Reduce administrative layers

Occurrences: 1

Example: "I would try to shorten the gap if I could improve the whole red horse concept. For instance the mission tasking was a lot of red tape and a lot of approvals. If I could shorten the gap between that and show the willingness that these guys have, that they wanted to do it."

Factor: (amplifies) Few echelons of command

Outcome: B – Vague mention of overall benefits

Factor: (mitigates) Administrative red tape

Outcome: D – Leadership/management challenge

Factor: (mitigates) Obstacle higher up chain of command

Outcome: D – Vague mention of overall disbenefits

Improvement: Reduce ARC recurring CBT requirements

Occurrences: 4

Example: "The world of CBT's is hell. It's based on an active-duty environment because active-duty members can sit at the computer everyday if they want and do CBT's. My members have two days per month… when do we get to do our AFS training?"

Example: "CBT's and training needs could be moved to just-in-time training. A lot of that is already done that way. We should get off of this every year doing things and that would take stress off of the training to have time to do other things… That's been put in place for a lot of things for Prime BEEF, but for RED HORSE it hasn't. So that's a killer to things."

Factor: (mitigates) ARC schedule

Outcome: D – Constraints to using ARC

Outcome: D – Hassle to accommodate other unit

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Ancillary burden on ARC time

Outcome: D – Missed opportunity to gain benefits

Outcome: D – Overstating capabilities

Factor: (mitigates) Perceived lower ARC competence

Improvement: Require closer civilian job - AFSC link

Occurrences: 1

Example: "we need to tighten down the tie between the day-to-day job and the ARC job, that they are more alike. Before we give someone an equipment AFSC they've got to be a certified equipment operator in the civilian world. That would probably kill us in retention but I think if we had it where they're coming off the construction site and say 'we built three new lanes on I- 25 last month. You've got to lay some pavement here today, let me help you.' You have instantaneous trust.

Factor: (amplifies) Comparable capability between components

Outcome: B - Interoperability

Factor: (amplifies) Competence from working everyday in craft

Outcome: B – Access to expertise

Factor: (mitigates) Perceived lower ARC competence

Improvement: Solid line relationships

Occurrences: 1

Example: "If politically we have to keep the unit in a location then we need to relook at the TFI to pair up active-duty red horse with reserve component red horse even as a detachment or some sort of solid line to one of our enduring active red horse units so that we can leverage the resources of an entire active-duty red horse squadron even if they're not co-located to get that synergistic benefit from our reserve components. The example would be to draw a solid line from Hurlburt field to Charleston and put the detachment of active duty red horse engineers at Charleston or something similar to that to get that effect. That's just an example. Rather than tying them to Prime Beef in another MAJCOM for a less effective euphemism for a made up TFI."

Factor: (amplifies) Co-location

Outcome: B – Cost savings from shared resources

Outcome: B – Re-bluing effect

Outcome: B – Access to facilities

Outcome: B – Access to vehicles/equipment

Outcome: B – Special capabilities training

Outcome: B – Offering training opportunities

Improvement: Staff guidance that is more clear

Occurrences: 1

Example: "I think the AFRC and active-duty have to come up with an understanding… You have all these brilliant people who put this together and I know it sounds great and everything but down at the working level where do you want us to be on this thing? The guidance is always going back and forth and we are always trying to figure it out. Do they want to fully integrate the reserve and active-duty or not and you get both answers… I think if they let the active-duty and reserve commanders take a look at it and figure out how to implement it and send it back up to AFRC or ACC using our input I think it would it work out better. Instead of just telling us what to do and not getting any input."

Factor: (amplifies) Support from functional staff

Factor: (mitigates) Unclear/missing guidance from higher headquarters

Outcome: D – Leadership/management challenge

Improvement: Submit joint training plan to ACC

Occurrences: 1

Example: "I would work with ACC and make recommendations on how we want to integrate and how we want to do our training out here. What I would do is work with the [associate unit] side of the house and see what would be the best feasible type of work where I can get my guys integrated with their guys to get the training done. When it comes to weekend stuff we can get by and I can adjust schedules but for the full TTPs side that's gonna be a little bit more work because they have to put the guys on orders and I have to put my guys on orders also to mirror up with them at whatever site they go to. If we lean forward ahead of time and put the full plan together working with ACC to let them know this is how plan on doing business to do the TFI and get it built up even stronger."

Factor: (amplifies) Working together frequently

Factor: (amplifies) Buy in – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Common goals

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Support from functional staff

Factor: (mitigates) Unclear/missing guidance from higher headquarters

Outcome: D – Leadership/management challenge

Improvement: Sync deployments

Occurrences: 3

Example: "if we go back to how it was where you take your sister unit with you I think it would be a lot better personally. You can still recover. It just takes a little more time once you get downrange to see what people's skill sets are and get the right team composite… if we are going to have the sister units next to us that we work together on a daily basis as much as we can and the weekend warrior type deal, we get together and then we roll out together downrange."

Factor: (amplifies) Planning – sufficient

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Cooperation – positive

Outcome: B – Training synergy

Outcome: B – Vague mention of overall benefits

Factor: (amplifies) Working together frequently

Factor: (mitigates) Unfamiliar with associate unit

Outcome: D – Missed opportunity to gain benefits

Factor: (mitigates) Different dwell rates

Outcome: D – Constraints to using ARC

Outcome: D – Inability to work taskings together

Outcome: D – Risk from interdependencies

Improvement: TFI considered when making cuts

Occurrences: 1

Example: "I think as we look at the coming years and the budget and the transformation that we're gonna go through I think it's important that we look at TFI and co-located units and the benefits that they bring as a factor in what units we keep and which units we divest ourselves of."

Factor: (mitigates) Political pressure to do TFI

Factor: (mitigates) Funding – lacking

Outcome: D – Vague mention of overall disbenefits

Appendix G: Areas for Future Examination

Note: for each entry below there is a title that summarizes the area for future examination followed by the quotation from the respondent where they proposed the idea. Quotes were modified to ensure a clear meaning and avoid identifying the respondent. Not all of the suggestions would qualify as viable thesis-level research.

Implications of reassigning PACAF squadrons to ACC

"How are we going to be impacted by being in ACC? I know I just alluded to it but none of us really know the way ahead, and that's not overly difficult, but there are a lot of mitigating circumstances as with any big transformational change… I really don't know specifically down to what questions unless your research has some prevailing stuff that you want to get out to the field, but that's definitely one that I think needs to be looked into. For example, for an ORI ACC has a checklist but PACAF is still going to do their own thing. Ultimately we need to figure out who is going to execute this upcoming ORI out in PACAF and try to do those discussions or negotiations of what we are going to have to do. We pretty much did what we would do deployed so maybe they can stick to that. I don't know if ACC has certain special interest items that PACAF would take into account, but bottom line PACAF calls the shots which may or may not be red horse centric."

Role of TFI documents in TFI success

"[If] you pulled all the memorandums of agreement and looked at the differences between them. Of the ones that do exist you could look and see what's successful and what's not successful to see if there's anything in those that procedurally set up one way or the other that makes it successful versus not successful."

Implications of additive TFI with no unified control

"The other interesting part about that where it comes to TFI is if the 554th is doctrinally organized to marry up a guard, a reserve, and an active-duty unit and to go forward and deploy, how do we test that capability? How do [we] prove that [we are] ready to go do that mission? … you either have to bring everybody together and exercise and get inspected together or you accept risk. [Do] you say the 254th is going to have an inspection by the guard bureau, the 307th is going to have their inspection, the 554th will be inspected by active-duty PACAF, and we're going to assume that the sum adds up to the whole and you're good to go? How can [one commander] in good faith say that our TFI unit is ready to go to war if [they] have no control over the other two units and their readiness programs. Should they report… their readiness stature [as a blended] report of all three units to give an overall [capability]? How do I keep the other units from pencil whipping? How can I trust them and how can they trust me that we're getting all this done? … That can create a complication that I don't think we've thought through. [W]hen you have an associate unit that you don't directly own and control, how do you ensure that the unit as a whole is able to meet their wartime commitment? that's a risk of the TFI."

Leadership/direction of RED HORSE program
"Who has got the best vision for what the red horse program should be? The active-duty guys who are more reactive and responsive to today's trends, or is it the guard and reserve guys who know from long history that this is what the red horse program has been built upon and you cannot lose sight of what we truly deliver. OEF and OIF was temporary. We built a bunch of B-huts and we built a bunch of K-spans and we built a bunch of PEB's. That was trendy for the last 10 years, but can we really build airbases? Can we do heavy-duty concrete structures? What are the core competencies? Can we drill a well? That's where the guard and reserve might say 'we haven't done this in 10 years, but it's really important.' It's still important and we need to keep it a priority. I don't know who is right on this."
"One of the things I would ask is where do you think the horse units will go in the future."

TFI or just MOAs to best leverage collocated units
"You can say that's a leadership challenge and that's what you need to do. If it's that much of a leadership challenge I would raise the question is it worth the benefit of what we get by having the TFI, or are we better off saying if they've got capability let them bring it and stay within their own leadership chain? We will bring our capability and bring it within our leadership chain. You can still MOA and MOU material and share equipment [but maybe] you don't need these formal arrangements where the units are forced to come together and work side-by-side."

"Again it's the capacity. We need 11 [RED HORSE force modules. We cannot afford 11 so we have four [AD] and seven [ARC]. Those numbers have been recently cut. Again my question is - and I'm not sure I'm convinced –'do we need to have associations to provide that capacity or can we just provide that capacity?' So we talked on benefits of integration and how it does work and who has the benefit. Is that worth the cost of the cultural inertia that you have to overcome to achieve it?"

Cost effectiveness of ARC in protracted conflict with rotational force employment
"The cost thing is [whether] you saving as much as you think you are with the nonavailability? Are you breaking even or making money in the long run? What I mean by that is if your ARC component costs you one third of what the active does yet they are only available 1/5 of the time so you need five [ARC] units to provide what you would for one active duty unit, well then are you really saving money. On the individual level, yes one third for one unit, but to meet the total requirement you need more to maintain that same dwell…I think there is still a little bit of Cold War thinking that we are going to mobilize to go together and we have a very effective unit that you only had to spend one third on to give you guys there, but in trying to maintain combat capability on a protracted environment/engagement that requires rotational forces I think your cost benefit starts to erode, which leads to the question 'is it worth it?'"
Civilian job relation to military AFSC and supervisory role
"Another interesting study that's probably outside yours is we talked about the anecdotal

data of how many electricians in the civilian world are electricians in the ARC, and how many equipment operators and carpenters or even just skilled craftsmen. It would be interesting to know what percentage we have out there in RED HORSE in particular. How many vehicle mechanics are actual vehicle mechanics in the real world? I think that would help a lot with the trust factor that we talked about… I'd even take a design engineer that comes out on the weekend and runs a bulldozer. In the officer corps you probably do have people that work in engineering firms. The few officers that are new in the ARC were either full-time guys there or were engineers with engineering firms so there was a certain amount of technical expertise to be able to do city master planning and come in to do a beddown layout or master plan of the expeditionary site. Or people who oversee large projects and they come in and work a construction project for RED HORSE. I just don't have a good sense of at the trade skills level how much that translates. The few that I know who were either unemployed or stay-at-home people and they drove a tractor on their dad's farm and then they came in and operated equipment for the Air Force. Is that close enough or not?

I have a guy who did masonry wall construction retaining walls. We don't typically do masonry working constructing retaining walls in the Air Force but when we had to do that and he had done it previously and was on the job site as worksite supervisor he knew how to operate a worksite. Whereas if the guy is an air-conditioning mechanic or repair man for a company working pretty much on his own doing jobs day-to-day and has to lead a crew of people in RED HORSE to run a project. Yes he can go out there and fix that air-conditioner but can he direct six other people how to do it? It's a little different skill… Leadership at the NCO and senior NCO level starts to erode a little bit as the leadership skills of directing crews just aren't as prevalent on the outside. Part of that is because the outside companies aren't structured the way we are or leadership positions at the companies are people who aren't going off and doing reserve duty. We would probably need that kind of data and how much of a disconnect is there before we could even pursue the tying weekly certification or monthly certification checks of individuals to say that they are proficient in their skills like we talked earlier. How connected or disconnected are we from trades/crafts skills in a RED HORSE squadron?"

How integrated should TFI units be

"We talked on what is merged. That might be something… as a TFI there are certain things that are merged together and certain things that are not. Maybe you might be interested in asking some of the other units what do they merge and what do they not. It's not like everybody does everything together. We are separate but we are together and it needs to be that way."

Bibliography

Air Force Public Affairs Agency. "AF Announces Additional Force Management Programs To Reduce Force Size." Washington: Air Force Public Affairs Agency, 12 December 2013.

Air Force Reserve Command. "The Air Force Reserve Vision and Guiding Principles: A Combat-Ready Force" AFD-130509-013. Robins AFB GA, April 2013.

Argyris, Chris. "Empowerment: The Emperor's New Clothes." *Harvard Business Review* 98-105 (May-June 1998).

Barbour, Rosaline S. "Checklists for improving rigour in qualitative research: a case of the tail wagging the dog?" *British Medical Journal* 322:7294 1115-1117 (5 May 2001)

Belout, Adnane and Clothilde Gauvreau. "Factors influencing project success: The impact of human resource management." *International Journal of Project Management*, *22*(1): 1-11 (2004).

Brown, Ray and Tom Manion. "Integration Plan (I-Plan) for RED HORSE Classic Association at Nellis AFB, NV." Unpublished Document. Air Combat Command, Langley AFB VA, 16 January 2009.

Correll, John T. "The Origins of the Total Force," *Air Force Magazine*, (February 2011).

Daniel, Johnnie. *Sampling Essentials: Practical Guidelines for Making Sampling Choices*. Los Angeles: Sage publications, Inc., 2012.

Davit, Anthony, Stephen Batherson, and Kevin Monkman. "Year of the Horse." *Air Force Civil Engineer*, 18(2): 19-21 (2010).

Denzin, Norman K. and Yvonna S. Lincoln. *Handbook of Qualitative Research* (2nd edition). Las Angeles: Sage publications, Inc., 2000.

Department of Defense. *Managing the Reserve Components as an Operational Force*. DOD Directive 1200.17. Washington: GPO, 29 October 2008.

Department of the Air Force. "RED HORSE Wartime and Contingency Concept of Options." Tyndall AFB FL: Air Force Civil Engineer Center, September 1999.

-----. *Responsibilities for Total Force Integration*. AFI 90-1001. Washington: HQ USAF, 29 May 2007.

-----. *Engineer Operations*. AFDD 3-34. Maxwell AFB AL: Curtis E. LeMay Center for Doctrine Development and Education, 19 September 2011.

-----. *RED HORSE Program*. AFI 10-209. Washington: HQ USAF, 8 May 2012.

Gerras, Stephen J. *Thinking Critically about Critical Thinking: A Fundamental Guide for Strategic Leaders*. Carlisle Barracks: U.S. Army War College, 2008.

Hartzer, Ronald B. "A Horse with Wings: Red Horse History." Tyndall AFB FL: Air Force Civil Engineering Center, 15 July 2013.

Hood, Vandiver K. EOD flight superintendent, 4th Civil Engineer Squadron, Seymour Johnson AFB NC. Telephone interview. 25 February 2014.

Johnson, Bruce K., Scott Kniep, and Sean F. Conroy. "The Symbiotic Relationship between the Air Force's Active and Reserve Components: Ensuring the Health of the Total Force." *Air and Space Power Journal*. 27:1 107-129 (January – February 2013).

Kerr, Raymond. "Trojan HORSE: Reorganizing Air Force Heavy Engineer RED HORSE Units to Meet National Defense Strategy Requirements." Research Report. Air Command and Staff College (AU), Maxwell AFB AL, February 2012.

McCrackin, Cecil C. EOD section superintendent, 916th Civil Engineer Flight, Seymour Johnson AFB NC. Telephone interview. 25 February 2014.

Moore, Brian D. "Fighter Maintenance and Total Force Integration: Current Active Duty Manpower Implementation Practices and the Impact on Deployment Capability." Research Report. Air Command and Staff College (AU), Maxwell AFB AL, April 2009.

Murh, Thomas and Susanne Friese. *User's Manual for ATLAS.ti 5.0* (2nd Edition). Berlin: Scientific Software Development, 2004.

Oates, Robert S. "Total Force Integration: Reserve Component Associate Missions." Research Report. Air Command and Staff College (AU), Maxwell AFB AL, February 2008.

Project Management Institute. *Project Manager's Book of Knowledge* (5th Edition). Newtown Square PA: Project Management Institute, 2013.

RED HORSE Program Office. "RED HORSE Commanders and Chiefs Virtual Conference." Unpublished Presentation. Air Combat Command, Langley AFB VA, August 2013.

-----. "RED HORSE Configuration Control Way Ahead." Unpublished Presentation. Air Combat Command, Langley AFB VA, April 2013.

Riche, Martha Farnsworth, Amanda Kraus, and Apriel K. Hodari. *The Air Force Diversity Climate: Implications for Successful Total Force Integration*. Contract

N00014-05-D-0500. Alexandria VA: the CNA Corporation, November 2007 (CRM D0016190.A2).

Savin-Baden, Maggi and Claire Howell Major. *Qualitative Research: The Essential Guide to Theory and Practice*. New York: Routledge, 2012.

Scientific Software Development. "Some Cooc Table Explorer (CTE) mysteries unveiled." Unpublished article. n. pag. 15 February 2014 http://www.atlasti.com/395.html.

Shadish,William R., Thomas D. Cook, and Donald T. Campbell. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton Mifflin Company, 2002.

Sotallaro, Mark. "Guilt by Association? A Blending of Air Force Cultures." Research Report. Air Command and Staff College (AU), Maxwell AFB AL, April 2008

Skulmoski, Gregory J., Francis T. Hartman, and Jennifer Krahn. "The Delphi method for graduate research." Journal of information technology education 6 (2007): 1.

Tongco, Ma. Dolores C. "Purposive Sampling as a Tool for Informant Selection." *Ethnobotany Research & Applications*. 5: 147-158 (2007).

Total Force Enterprise Management Division. "Total Force White Paper" (October 2012). Washington: HQ USAF (AF/A8XF). 15 May 2013. https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPageId =sA4057E1F2AAC0D5D012AD2EF4187106C.

-----. "TFI Association Status" (October 2013). Unpublished presentation. Washington: HQ USAF (AF/A8XF). 16 February 2014. https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPageId=sA4057E1F2AAC0D5D012AD2EF4187106C.

Trader-Leigh, Karyn E. "Case study: identifying resistance in managing change." *Journal of Organizational Change Management* 15(2): 138-155 (2002).

Wendling, Frank E. "Expeditionary Airfield Operations: Red Horse and the Future Security Environment." MS Thesis. School Of Advanced Air And Space Studies (AU), Maxwell AFB AL, June 2006.

Wheeler, Jon A. "An Historical Analysis of the Development of RED HORSE." MS Thesis. AFIT/GEM/LSR/87S-26. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1987. (ADA186481)

Wynne, Michael and T. Michael Moseley. "Initial TFI Plan Phase IV." Memorandum. Washington: HQ USAF, 14 March 2007.

Vogt, W. Paul, Dianne C. Gardner, and Lynne M. Haeffele. *When to Use What Research Design*. New York: The Guilford Press, 2012.

Yin, Robert K. *Case Study Research: Design and Methods* (4th Edition). Los Angeles: Sage publications, Inc., 2009.

Vita

Captain Grant R. Bloom graduated from Colorado School of Mines with a Bachelor of Science degree in Mechanical Engineering in December of 2008. He was commissioned as a Second Lieutenant in the U.S. Air Force through AFROTC Detachment 105 at the University of Colorado. He was first assigned to the 4th Civil Engineer Squadron, Seymour Johnson Air Force Base (SJAFB), North Carolina.

While at SJAFB, Capt Bloom served in the Programs Flight as a design engineer and project manager in the mechanical engineering section and was the Readiness and Emergency Management Flight Commander. Also, during his time at SJAFB he deployed to Mazar-e-Sharif, Afghanistan where he was a project manager in the 877th Expeditionary Prime BEEF Squadron.

In August 2012, he entered the Graduate School of Engineering and Management, Air Force Institute of Technology. Upon graduation he will report to the 99th Civil Engineer Squadron, Nellis Air Force Base, Nevada.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From - To)*
27-03-2014	Master's Thesis	Sept 2012 - March 2014

4. TITLE AND SUBTITLE

An Analysis of Total Force Integration in RED HORSE Organizations

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

Bloom, Grant R, Capt, USAF

5d. PROJECT NUMBER

5e. TASK NUMBER

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Air Force Institute of Technology
Graduate School of Engineering and Management (AFIT/ENV)
2950 Hobson Way, Building 640
WPAFB OH 45433-8865

8. PERFORMING ORGANIZATION REPORT NUMBER

AFIT-ENV-14-M-11

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

RED HORSE Program Office, Headquarters, Air Combat Command
RED HORE Program Manager, Capt Ross Dotzlaf
129 Andrews St, Suite 105A
Joint Base Langley Eustis, VA 23655
(757) 764-3157, DSN 574-3157, ross.dotzlaf@us.af.mil

10. SPONSOR/MONITOR'S ACRONYM(S)

ACC/A7XO

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT

Distribution statement A. Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

This work is declared a work of the U.S. Government and is not subject to copyright protection in the United States.

14. ABSTRACT

Total force integration (TFI)—the operational linking of geographically proximate active duty (AD) and air reserve component (ARC) units with similar missions—has become a prevalent method for greater utilization of ARC forces to reduce operating costs. This research examines TFI implementation in Rapid Engineer Deployable Heavy Operational Repair Squadron, Engineers (RED HORSE), a subset of Air Force civil engineering, in terms of the outcomes units receive from being in a TFI initiative, what factors contribute to causing those outcomes, and how those outcomes may be improved by manipulating the contributing factors. Four cases of RED HORSE TFI were studied using case study research methods and focusing on textual analysis of structured interviews with twenty senior RED HORSE members. The research identified prevailing outcomes, as well as whether the AD unit, ARC unit, or RED HORSE enterprise received each outcome, prominent factors, as well as the type of outcomes associated with those factors. Manipulating internal factors such as attitudes and enterprise-level management engagement may result in increased benefits and reduced disbenefits from RED HORSE TFI initiatives and may be applicable to other areas of the previously unstudied field of TFI in combat support organizations.

15. SUBJECT TERMS

RED HORSE, total force integration, case study, textual analysis

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Johannes, Tay W, Lt Col, PhD, USAF
U	U	U	UU	133	19b. TELEPHONE NUMBER *(Include area code)* (937) 255-3636 x3556 tay.johannes@afit.edu